EL22292
HARTS RANGE REGION
ALICE SPRINGS 1:250 000 SHEET
NORTHERN TERRITORY

SECOND ANNUAL & FINAL REPORT FOR THE PERIOD ENDED 10th July 2003

Data presented in
AGD 66 Datum

Prepared by: **Geoff Bogie**

Submitted by: **Oneva Exploration Pty Ltd**
Alice Springs

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SUMMARY

This second and final year report summarises all exploration work carried out on EL 22292 for tenure ended 10th July 2003. The tenement of 210 blocks is located 100 km northeast of Alice Springs on the Alice Springs 1:250 000 sheet and encompasses the western section of the Harts Range and the eastern section of the Strangways Range.

As described in the first year report, the geology of the tenement area comprises high-grade felsic and mafic gneisses of the Hillsoak Bore Metamorphics and the Ongeva Granulite and the metasediments of the Cadney Metamorphics. The gneisses are believed to be part of a very extensive bimodal volcanic package (Narwietooma Strato-tectonic Package >1820 Ma) that may be an accreted volcanic arc when the Arunta – Northern Australian Platform was a convergent margin. The metasediments of the Cadney Metamorphics are suggested to overlie the main volcanic package and have been assigned to the Cadney Strato-tectonic Package of age >1770 Ma. The area shows repeated high-grade metamorphic events that extend from 1880 Ma to 300 Ma and cause reactivation and retrogression along fault corridors.

In the first year: Work completed on the tenement involved open file research, regional reconnaissance, traversing, prospect definition and rock chip sampling, soil sampling, geological mapping with prospect reviews and field assessment, definition of drill targets and drill site preparation.

Significant new discoveries of Cu and Cu-Au mineralisation were defined in two main areas along the south-east trending Cadney Fault, Corner Post Hill to Browns Rise and Missy Brown to Diamond T and a separate north-east trending zone, Diana's Block 2 to Block 8. These are within the Narwietooma Package. A more distant Cu-Au prospect in the far east of the tenement was defined at Magnetite Hill within the metasedimentary Cadney Package.

In the second year: Drilling at three prospects did not produce results sufficient to attract a joint venture partner and the tenement was surrendered.
Diana's Block 2 to Block 8 comprises a discontinuous, cross-faulted zone of patchy mineralisation that is associated with folded quartz-magnetite and magnetite-biotite schist and may be part of an iron formation with shallow plunging folds recorded at Block 8, **(Drillholes 1 and 2).**
High grade sections over 150 mt strike at Diana's Block 2 **(Drillholes 3 and 4),** where rockchip assayed to 29.5% Cu and 1.1 ppm Au over narrow intervals, with lesser grades to several percent over broader areas. High grades of 15% Cu and 2.57 ppm Au were recorded at Diana's Block 8.

Corner Post Hill **(Drillhole 5)** contains discrete strongly mineralised Cu lenses in sheared felsic gneisses over 60mt x15mt along the Cadney Fault (Cu to 11.1%, Au to 0.489 ppm), but more extensive lower grade Cu may continue to Browns Rise. While the connection of Diamond T to Missy Brown is tentative due to alluvial covered sections and complex faulting, there is a potential zone of over 3km containing mineralisation in discrete zones.

Budget restraints unfortunately did not allow further work at Magnetite Hill, located to the extreme southeast of the tenement. This structure may be a stratabound magnetite occurrence overprinted by mineralising Cu-Au fluids (average 2.1% Cu, 0.05ppm Au from channel samples previously collected).

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1. INTRODUCTION

This report outlines all work carried out within EL 22292 for the first and second year of tenure ended 10th July 2003.

The tenement is located approximately 100km northeast of Alice Springs and covers parts of the far north and north-east sections of the Alice Springs 1:250 000 sheet (**Figure 1**). Access to the northern part of the tenement is via the North Stuart Highway and then the Plenty Highway, which is sealed as far as Ongeva Creek, Mt Riddoch Station, some 160-km by road from Alice Springs. All access within the tenement is by unsealed station tracks. The eastern part of the tenement can be accessed via the Ross Highway through the historic gold mining centre at Arltunga, then past Claraville Station via a Government gazetted 4WD enthusiasts track through Cattlewater Pass to the Plenty Highway.

The tenement was acquired to explore for base metals, copper-gold and gold in particular, as the general region contains scattered occurrences of possible volcanogenic base metal systems (e.g. Oonagalabi) as well as fault/shear zone-hosted copper-gold mineralisation potentially related to granites and tectonism that span the 1750 Ma to 400Ma time frame.

2. TENURE

Exploration Licence 22292 was granted to Geoff Bogie and George Sabadin of Oneva Exploration Pty Ltd on the 8 August 2001 by the Northern Territory Department of Mines and Energy. The tenement comprises 210 blocks, covering an area of 663.1 sq km.

The exploration licence encompasses three Pastoral Lease Stations: Mount Riddoch Station, The Gardens Station and Ambalindum Station and is not the subject of any Native Title claims.

Expenditure on exploration was $72,060 in Year 1, $47,904 in Year 2 and is summarised in **Appendix 1**.

3. GEOLOGY

The same outline was reported in Year 1 and a better description cannot be written:

The Arunta Block is a complex Palaeoproterozoic to Palaeozoic metamorphic province located on the southern margin of the Palaeoproterozoic Northern Australian Orogenic Province. The tenement is located in the eastern part of the Arunta Block and encompasses the eastern section of the Strangways Range and the western portion of the Harts Range (**Figure 1**). Basement to the Arunta Block is a ~2500 Ma granite gneiss complex not represented in the tenement area, but in the far north-west of the Arunta Block and in the adjacent Granites Tanami Province (Wygralak and Bajwah, 1998). The Arunta Province is unconformably overlain by weakly to unmetamorphosed Neoproterozoic to mid-Palaeozoic sediments that once formed a continuous sedimentary blanket over much of Central Australia.

As a result of work by the Bureau of Mineral Resources in the 1970s and 1980s, the Arunta was divided into three tectonic provinces, Southern, Central and Northern (Stewart et al., 1984). These provinces were defined based on structure, rock type and associations and ages.

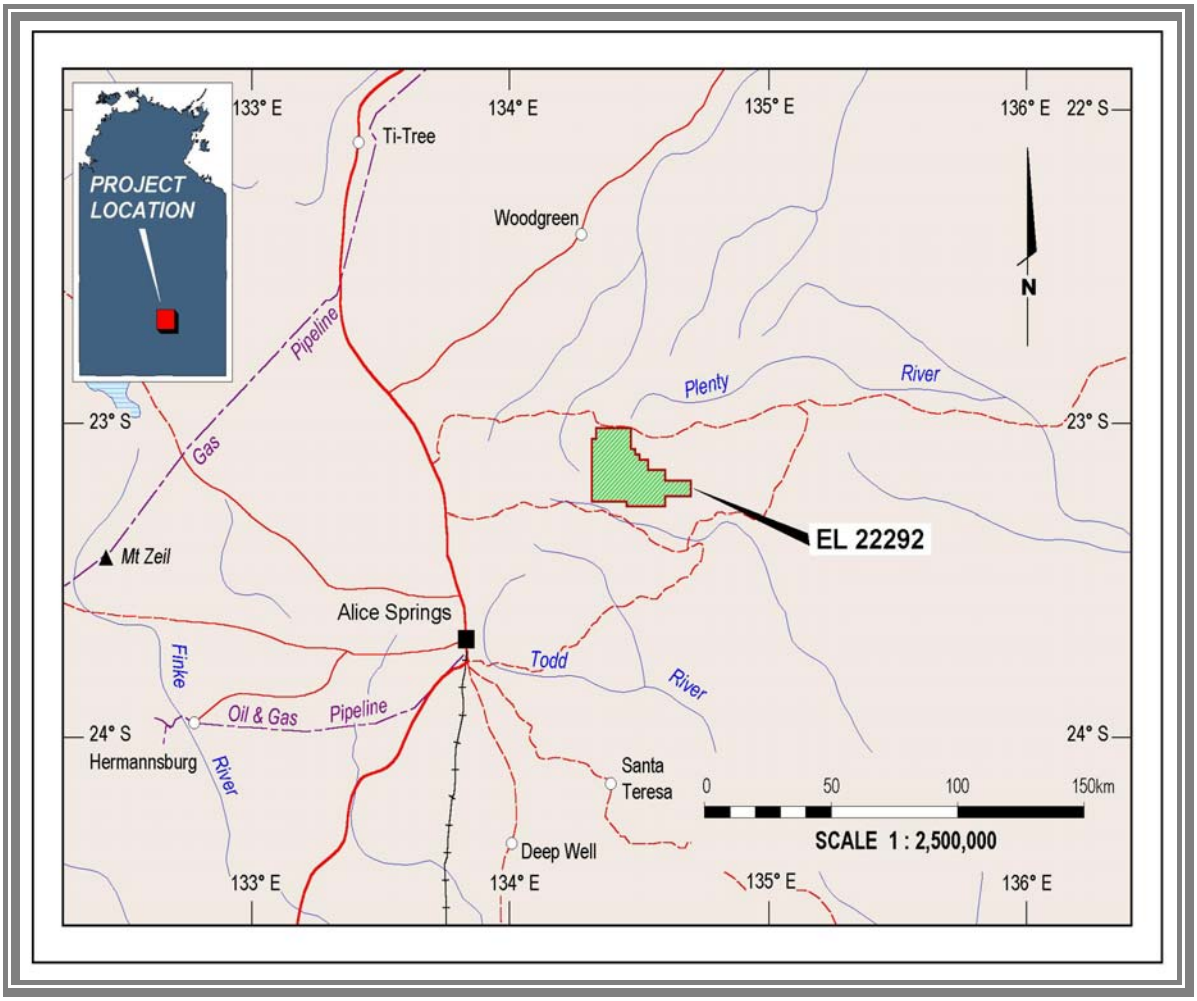


Figure 1
Tenement Location Map

The exploration licence is located in the Central Province and is dominated by extensive mafic and felsic gneisses after a bimodal volcanic suite that may represent an accreted volcanic arc complex. It is locally overlain by pelitic, psammitic and calcareous metasediments. Several major mafic-ultramafic complexes are now recognised located in the Central Province close to the contact with the Northern Province, but not in the tenement area. All rocks in the Central Province are metamorphosed usually to granulite facies assemblages.

As a result of more recent geochronological and structural studies, it was clear that the three tectonic provinces contain common events and are therefore not distinct domains (Collins and Shaw, 1995, Zhao and Bennett, 1995). It was also realised that the eastern part of the defined Central Province of the Arunta had undergone major Palaeozoic tectonism that was not recorded elsewhere (Scrimgeour and Raith, 2001).

Polymetamorphism is a characteristic of the Arunta in three main periods, ~1880-1750 Ma, 480-460 Ma (Larapinta Event) and 400-300 Ma (Alice Springs Orogeny). Many of the major shear zones and thrusts record movements relate to the Alice Springs Orogeny, but may have been reactivated old structures.
High-grade felsic and mafic gneisses and some associated metasediments in the tenement are assigned to named and unnamed metamorphics. Foremost among these are the Hillsoak Bore Metamorphics, and the Ongeva Granulite (**Figure 2**).

These dominate the licence area and are overlain by the Cadney Metamorphics, a dominantly metasedimentary package that comprises calc-silicate, marble, biotite-sillimanite schist, quartzite with some mafic and felsic gneiss and amphibolite.

In the far south-west outside the tenement area, the Ankala Gneiss is a metasedimentary package that may be of similar age to the Cadney Metamorphics. Relics of cover of the Late Proterozoic Amadeus Basin are preserved here as well. A granite gneiss (Anamarra Gneiss) of 1760 -1740 Ma age occurs between the north-west trending Cadney Fault and Mt Johnstone fault.

In the far north-east, again outside the tenement area, high-grade metasediments and amphibolite of the Harts Range Group have now been dated as 650-500 Ma, in marked contrast to the Palaeoproterozoic ages of the other packages (Scrimgeour and Raith, 2001). The West Bore Fault in part marks the tectonic boundary between the Palaeoproterozoic and Palaeozoic sequences. Major zones of overprinting and retrogression are recorded along the Cadney Fault due to the Alice Springs orogeny. Thin Tertiary to Recent sediments cover parts of the tenement and obscure the prospective Palaeo-proterozoic sequences.

A strato-tectonic approach to more effectively reconcile the complexities of formation names and ages was devised by Pietsch, 2001. This is summarised for the licence area in **Figure 3** (with additions) and reported further in **Appendix 4**, where the package divisions are shown against a TMI aeromagnetic image. Here the mafic and felsic gneisses or bimodal volcanics are part of the Narwietooma Package of >1820 Ma age. The Cadney Matamorphics form the >1770 Ma Cadney Package. The Ankala Gneiss is also part of a >1770 Ma package, while the Harts Range Group is part of the early Palaeozoic (650-500 Ma) Irindina Package.

The magnetic character of the Narwietooma is distinctive in a regional context (**Figure 3**), but it is not possible to sub-divide the sequence on the basis of magnetic character. Similarly the Cadney Metamorphics show a weaker but variable magnetic character that probably reflects a variety of different rock types.

Stewart and Warren (1977) have reviewed the mineralisation potential of the Arunta. Warren and Shaw described small Cu-Pb-Zn vocanogenic deposits in the Strangways Complex that encompasses part of the licence area, while Wygralak and Bajwah, 1998, produced an up to date summary of Arunta geology and mineralisation.

4. PREVIOUS WORK

A search of the available historical tenement database shows that 26 previous exploration licences either intersect or touch the present boundaries of EL 22292. Some reports were accessed on microfiche, but most do not have significant exploration data that impact on the tenement.

ELs 110, 183, 283 Russgar Minerals N.L.: This was part of a large tenement holding that ran from Anamarra Creek east to Harts Range and the Oonagalabi Prospect southwards beyond the EL 22292 boundaries. Russgar's consultants interpreted regional rock chip sampling and geochemical data as having the strongest geochemical anomalism, a Pb-Cu association, located in the north-west and west sectors of the present EL 22292. Elevated Pb samples were associated with a north-trending zone suggesting a structural control. An adjacent eastern area Cu-Pb association was also reported, together with a Zn-Ni response near the copper occurrences at Camp Hill, located in the far north of EL 22292.

EL 6941 Clarence River Finance Group Pty Ltd: This work was concentrated in the Camp Hill area where a number of old workings had copper (copper carbonates, cuprite, chalcocite, chalcopyrite) associated with quartz veins derived from a basic intrusive. Rock chip sampling produced some high Cu grades, but low associated Au values. Their focus of exploration was apparently a potential for garnet sands in the district.

EL 8787 Pasminco Exploration: Pasminco have completed airborne aeromagnetic-radiometric survey, collected stream sediments, soil and rock chip samples and defined high intensity aeromagnetic features using ground magnetics traverses. This work and tenement covers part of the south-east area of EL 22292. Magnetite Hill in the far east of EI 22292 was identified as a magnetite-Cu occurrence on a major NE-trending aeromagnetic linear.

5. EXPLORATION WORK COMPLETED

All work within the tenement was conducted by Geoff Bogie and George Sabadin of Oneva Exploration P/L (Oneva) with several consultants, Peter Evans of Dames and Moore, Darwin, Dudley Corbett from Alice Springs (Corbett 2002 field report for Oneva) Rod Dawney (AUSMEC, Brisbane 2002 report for Oneva), these contributing to field reviews of structure and potential drill targets. Results of the various programs are summarised in **Figure 4** and involved the following:

- Open file studies
- Regional reconnaissance, traversing and rock chip sampling and assaying, limited soil sampling at three prospects
- Definition of prospects and brief mapping of the mineralisation
- Consultant structural geologist's air photo interpretation and field assessment
- Consultant's field assessments and review of several prospects
- Definition of three drill targets and clearing of drill pads and access tracks
- Rab drilling three drill target anomalies and subsequent assays

5.1 Open File Studies

These were described above and are not discussed further.

5.2 Regional Reconnaissance, Prospect Definition and Drilling

The bulk of work undertaken has been in the central part of the tenement along the north-west trending Cadney Fault, or, in a broad corridor that includes the fault. Here a variety of prospects was collectively defined and includes: Corner Post Hill and East Extension, Long Splinter Hill, Browns Rise, Diamond T, Missy Brown and Disha Brown, Pink Panthers, Polka Dot Bikini, Bas Creek Bikini, North Bikini, Bikini Basin, Diana's Block 2, 3, 4, 7, & 8. Archive accessed data did not record any Au-Cu discoveries across this zone. In fact, apart from an occasional old mica scrape, no old workings were seen.
Reports: (Corbett – 2002, Year 1) (Dawney – 2002, Year 2, **Appendix 4**).

The far east of the tenement was initially accessed by helicopter; Magnetite Hill and Open Valley prospects were defined. *For prospect areas see Figure 4.*

Rock chip and surface soil samples, collected during various stages of appraisal were reported in Year 1, with assay data off same. Drilling at Corner Post Hill, Diana's Block 2 and 8 is reported below and with multi-element assay data herein **Appendix 3.**

Diana's Block 2: This interesting area contains high-grade copper mineralisation (2.3% - 29.5%) and some associated Au to 1.1ppm. Malachite, chalcocite and chalcopyrite are associated with a quartz-magnetite unit and in biotite schist to 15mt width (magnetite in the west and biotite in the east) as part of an acid gneiss package. The best sulphide zones are to 0.8mt, but the mineralised zone may be over 10-20mt. The quartz-magnetite may represent iron formation related to a volcanogenic system or structurally controlled alteration. The surface outcrops strike north-east and dip at 70-80° to the north with the best in the south extending over 150m (Bogie, 2002). This is very different to the south-east trend of many copper in quartz vein deposits associated with the Cadney Fault to the south.

The operators made a decision to drill and test this target with two drillholes and similarly the other two target locations without extensive channel chip, geological surface mapping or other geophysical survey methods. Drilling completed by Titeline Drilling P/L, Lonsdale, SA. Drillrig: Gemco HC12 with 3mt stroke.

DRILLING: Diana's Block 2 (See Appendix 2, set-up and positions).
Two drillholes spaced 50mts, RAB drilled at 60 degrees incline to intersect target mineralization at 30mts depth, produced very poor Cu-Au results. Drillhole 3 (first) drilled to 27mts and encountered water table. No further drilling. Drillhole 4 (Second) drilled to 33mts, water also encountered, no further drilling. **(Figure 5 Locations and access).**
Both drillhole's 3 and 4 sampled at 1mt intervals, commencing at 4mts depth. Both produced high iron values from 20mts, Drillhole 3 from 20mts high Magnesium levels. No lead but with potassium above background and both with slight levels of sodium.

Diana's Block 3: Located north-east of Diana's Block 2, the mineralisation is probably related. Here Cu to 17.5% occurs in garnet schist that is strongly magnetic in places and may reflect overprinting magnetite alteration or older stratabound magnetite in schists related to a syn – volcanic alteration/exhalative system subsequently modified by deformation and metamorphism.

Diana's Block 4: Area extends east from Diana's Block 3 and may also be related? Malachite occurs in schist that is locally strongly magnetic. White quartz veins may overprint earlier mineralisation and has malachite and chalcopyrite associated.

Diana's Block 7: Positioned on a massive quartz blow, this refers to a copper outcrop associated with fine-grained cherty silica, just to the north of Diana's Block 4.

Diana's Block 8: This area has similarities with Diana's Block 2. Malachite chalcopyrite and chalcocite are associated with strongly magnetic biotite-muscovite schists over a strike of 120m. The zone is associated with shallow plunging fold closures and possible later faults filled with white quartz. Discontinuity of mineralisation may be related offset by later faults. Cu to 15.1% and Au to 2.57ppm were recorded.

DRILLING: Diana's Block 8
Two drillholes spaced 45mts, RAB drilled at 60 degrees incline to intersect target mineralization at 30mts depth, produced very poor Cu-Au results, considering the attractive surface rockchip sample assays. Drillhole 1 encountered a water table at 43mts and was drilled no further. Drillhole 2 drilled to 42mts where a water table was also encountered, no further drilling.

Both drillhole's 1 and 2 sampled at 1mt intervals, commencing at 4mts depth, with drillhole 2 sampled from 3mts depth. Both produced high iron values. Drillhole 1 produced elevated (low value) Cu from 33mts depth and correspondingly yielded sharp increases in iron, (Fe 40% at 39mts). Both drillholes recorded elevated Magnesium. No lead but both drillholes assayed potassium and sodium above background.

Corner Post Hill: This is an abrupt low outcropping hill to 30m height located along the Cadney Fault. Discrete strongly mineralised copper lenses occur within sheared quartz-feldspar gneisses over a maximum strike length of 60mt x 15mt on the north-east slope of Corner Post Quartz-carbonate veins are associated with oxidised malachite-chalcocite mineralisation with relict primary chalcopyrite. The lenses strike 110° T and dip 60°N. Reports: (Corbett - 2002) (Dawney – 2002).

Assay data for seven samples produced a maximum of 11.1% Cu and 0.489 ppm Au. The samples averaged 6.8% Cu, 0.12 ppm Au, 1380 ppm Pb, 1.44% Bi. Resampling by a Consultant geologist (Corbett, 2002) with five samples collected again produced 3.2% - 11.1% Cu. Corbett interpreted that the mineralisation was introduced along the Cadney Fault during deformation and that drilling was necessary to ascertain the continuity and nature of the mineralisation at depth and along strike.

DRILLING: Corner Post Hill
A single drillhole to 34mts was drilled at 60 degrees to intersect target mineralization at 20mts depth. Samples were collected at 1mt intervals. Cu-Au results were very poor. From 7 to 11mts depth, iron values increased. Potassium was elevated and sodium generally just above background. Sample chip had moisture but no water, but water later penetrated the drillhole. A second planned drillhole not drilled because rained out.
The following week was spent righting the bogged drillrig, fuel truck and support vehicle.

RAB drilling produced good clean samples and the holes were flushed every rod change.

Corner Post Hill – East extension: This is about 350m east southeast from Corner Post Hill along the Cadney Fault and comprises low, abrupt outcrops with some malachite in sheared gneiss. Assay data show Au to 0.003 ppm and Cu to 2659 ppm.

Long Splinter Hill: This occurs about 350mts to the south of Corner Post Hill. Here malachite is present in a quartz-carbonate vein within acid gneisses and schists. Alteration appears to extend further west.
Three rock chip samples averaged 1.3% Cu, 0.5 ppm Au. Immediately to the west of the hill, malachite in gneiss assayed 2.71% Cu, 0.745 ppm Au.

Browns Rise: This may be an extension of Corner Post Hill to the southeast and occurs as a low rise and about 300mts diameter feature. Here copper mineralisation is associated with quartz in sheared schist. A scree zone of Cu-Au mineralised pebbles (9700ppm Cu and 0.077ppm Au) shedding from a low rounded rise north of Browns Rise may be related to a disseminated sulphide zone.

Rip Hill: Here copper is associated with quartz veins and magnetite schist. The area is located on a southeast trending fault parallel to the main Cadney Fault.
Riverstone Creek: This contains gravel and mineralised gneiss with gossanous quartz veins.

Disha Brown, Pink Panther and Missy Brown: These areas are adjacent and incorporate some malachite and gossanous quartz veins (Disha Brown to 12.6% Cu, 0.027 ppm Au). Porphyry intrusions occur nearby. Pink Panther comprises various quartz blows and reefs with minor Cu.

Lone Star: Here iron stained quartz and gossanous pyritic quartz and cherty quartz are defined with lens of talc immediately to the eastern flank.

North Bikini and Polka Dot Bikini: Gossanous quartz blows have some chalcopyrite and malachite associated. North Bikini is an isolated low hill shedding abundant gossan containing moderate Cu values. Also included is Bas Creek Bikini where gossan occurs over 3mts x 100mts parallel to the Cadney Fault. Minor malachite veins were detected in sheared gneiss at the eastern end.

Diamond T: Here widespread quartz with malachite and copper sulphides can assay to 13% Cu with some associated Au in gneiss, schist and calcareous units. The outcrops are low rises on a plain and the system appears poorly exposed. Several structural zones may be represented and there is a possible connection with North Bikini and Polka Dot Bikini.

Bikini Basin: This is a poorly exposed area where scree and Fe-stained quartz pebbles produced some copper anomalism.

Magnetite Hill: This appears to be a statabound zone of massive magnetite that contains Cu and Au on a hill that is 300mts east west by 550mts north south. It is located in the Cadney Metamorphics, whereas all previously described mineral occurrences are located within the Hillsoak Bore Metamorphics. The area has been only briefly investigated, so extensions to known mineralisation and more target areas may exist in the area particularly if the aeromagnetic data are considered.

Open Valley: Located 950mts north north-west from Magnetite Hill and comprises scattered outcrop and scree of cupriferous quartz reefs on the eastern slope of a north-south ridge. It may relate to a north-south lineament through Magnetite Hill (Bogie, 2002).

For all further reference to the above rockchips, see Year 1 Annual report.

5.3 Rockchip and Soil Geochemistry

Presented in Year 1 Annual report, the various prospect areas were sampled using rock chips while selected areas were soil sampled at Diana's Block 1, Bikini Basin and Rip Hills. Various sketch plans for the sample locations are included showing relationship to faults and other prospects and also includes summary assay data.

Samples were analysed by Australian Laboratory Services (ALS) in Alice Springs. Analysis was by Method IC587 that employs a triple acid digest ($HF/HNO_3/HCLO_4$), HCL leach and an ICPAES finish. Elements analysed and detection limits in ppm are Pb (5), Zn (5), Ag (1), As (5) Fe (0.01%), Mn (5), Mo (5), Co (5), Cd (5), Bi (5), Cr (5), K (0.01%), Mg (0.01%), Na (0.01%), Ni (5), Ti (10), V (10), W (5), (P (10), S (10), Zr (20). Some samples were analysed for Cu by method G001, (Perchloric acid digest with AAS finish) while Au was analysed by method PM219 (50g fire assay/lead collection, solvent extraction and AAS finish).

5.4 Drill Sample Geochemistry

Samples were analysed by ALS Chemex in Alice Springs. Gold analysis was by Method Au-AA26, 50g nominal sample weight fire assay and AAS finish.
Elements selected for analysis were Cu, Pb, Fe, Bi, K, Mg, Na, and Ti and assayed with Method ME-ICP61 by $HF-HNO_3-HClO_4$ acid digestion, HCl leach and ICP-AES. Element detection limits are shown in the header of analytical data table.

5.5 The Most Interesting Features

The operators concentrated on the area from Diana's Block 2, Diana's Block 8 and Corner Post Hill, through the zone Diana's Block 2 to Diana's Block 8 that may host a semi-continuous zone of mineralisation. Rockchip analysis from Diana's Block 2 high-grade zone assayed 29.5% Cu (sample DIA 203) and 1.1ppm Au (sample DIA 210). Mineralisation can be traced over 160m here. Yet the alteration zone also has an extension to the north where sample DIA 212 some 350m from the main mineralised zone has 0.86% Cu and 0.124 ppm Au.

Diana's Block 8 rockchips produced consistently high values over 120m strike with a high of 15.1% Cu (DIA 803) and 2.57 ppm Au (DIA 805), again showing a Cu-Au association. Diana's Block 7 has a local high of 2.24% Bi similar to Corner Post Hill. This may reflect an overprinting mineralisation event.

At Corner Post Hill, mineralisation that was sampled extends over 105mts in an east west direction. Rockchip sample DIA 07 with 8.45% Cu and 0.131ppm Au was the highest result. Bi is recorded in sample DIA 02 to 1.16%. Splinter Hill some 350m to the south recorded 2.71% Cu and 0.318ppm Au (sample DIA 08) from an amphibolite association.

Diana's Block 3 rockchips recorded highs of 17.5% Cu (DIA301) and 0.435 ppm Au (DIA 304). Diana's Block 4 recorded to 33.6% Cu and 0.440 ppm Au from sample DIA 404, though other closely associated samples produced lower results.

Diana's Block 7 rockchips with highs of 28.5% Cu (DIA 701) and 2.79 ppm Au (DIA 703) again emphasises the Cu-Au association. Structural complexities within Diana's Block 2 to Block 8 may affect the disposition and continuity of the mineralisation.

Magnetite Hill has had limited sampling owing to terrain access problems and produced an average 2.11% Cu, 0.05 ppm Au, 32.66% Fe, 552 ppm Co from two channel sample lines across the massive magnetite. Open Valley to the north produced to 5.08% Cu and 0.03 ppm Au from gossanous quartz reef scree.
Most other areas produced low to moderate Cu values and low Au values.

Pb to 4320 ppm (DIA 03) from Corner Post Hill and 1880 ppm (DIA 02) from the same area indicates a local Pb association that is not apparent in other sampled areas. However, drilling at these targets did not produce worthwhile Pb values.
Mo to 243 ppm is recorded in DIA 301 from Diana's Block 3 and 227 ppm from Diana's Block 8 (DIA 803), but this is the only significant anomalism. Diana's Block 8 has slightly elevated Zn at 183 ppm in sample DIA 805. Mo and Zn were not sought for drill sample assay analysis.

Soil samples did not produce results of interest where analysed and may have sampled transported cover rather than bedrock.

6. CONCLUSIONS AND RECOMMENDATIONS

Peter Gregory, from Brisbane (Author of Year 1 report) suggested that lead isotope data may be obtained from Corner Post Hill to better quantify the source and age of the lead and any connection with the volcanogenic – style of mineralisation (e.g. Warren, 1994) that in conjunction with Cu-Au targets may offer the best targets in the region.
Oneva did not undertake both lead isotope analysis and collections of gahnite.

The work over the northern and far eastern parts of the tenement has defined some very interesting areas of Cu and Cu-Au mineralisation that are largely within a broad fault corridor (at least 7km wide) around the northwest trending Cadney Fault and parallel structures. Here mineralisation is patchy and exposed locally over 7km strike of the fault as well as in a possible statabound zone trending north-east for over 2km (Diana's Block 2 to Block 8). These are new discoveries made by Oneva. Mineralisation is largely structurally controlled in its present form, but because the rock sequences and faults have seen repeated tectonism that includes a significant Palaeozoic reactivation during the Alice Springs Orogeny, remobilization may have occurred and the present disposition of mineralisation may reflect this latest event. A variety of primary origins for the various mineralisation occurrences from vein to replacement to stratabound may be envisaged and needs proper appraisal.

The quartz-magnetite and magnetite schists at Diana's Block 2 – Block 8 may be part of an iron formation package extending for over 2km and related to a volcanogenic system such as occurs at the Gumtree Prospect, Johannsen's Phlogopite Mine, Harry Creek and Johnny's Reward in the wider region (Warren and Shaw, 1985). No significant Zn was defined in the sampling, but the emphasis was on visible Cu, so the system needs to be revisited in this light. A presence of gahnite in many of the defined volcanogenic alteration systems elsewhere in the region (Warren and Shaw, 1985), suggests that stream heavy mineral sampling may be effective in delineating these alteration/mineralisation systems.

In Rod Dawney's report herein, Dawney after airphoto interp and subsequent field work interpreted three highly anomalous magnetic features, possibly formed in later-stage structural settings that may provide IOCG targets (Dawney – Figure 3). Structure #1 was part prospected without viewing prospective sites that should be sampled.

Structure #2 was found to contain highly magnetic surface fractions of sand and gravel at various sites and Dawney mapped this location at about on or south of the Ripp Hills targets that Oneva sampled and assayed without much success in Year 1. Structure #3 was not investigated although Oneva did have this zone airphoto mapped for search reconnaissance prior. This is a wild terrain area with restricted access. Nevertheless these three areas are still considered worthy of further investigation but require big budget allocation for works.

Owing to restricted access, the magnetite copper anomaly known as Magnetite Hill in the far east of the licence area did not receive any further attention because of (a) access, and (b) budget. The area is prospective for Cu, Au, Co and possibly Zn, but again single targets without vehicle access in this region require big budgets.

The operators have made a considerable number of new Cu-Au anomaly discoveries along and in conjunction with the Cadney Fault. Limited shallow drilling has not provided conclusive evaluation data; notwithstanding that Oneva planned drillwells to 80mts depth but this was not possible by RAB owing to strong water tables encountered.

Oneva could not interest any other parties to venture into this property and the tenure was surrendered prior to the August anniversary of licence.

REFERENCES

Bogie, G. and Sabadin, G, 2002: Preview of the Green and Gold Prospect, EL 22292, Alice Springs – Harts Range, NT, Central Australia. *Unpublished Report Oneva Exploration*.

Clarence River Finance Group Pty Ltd., 1992: Exploration Licence EL 6941 Harts Range NT – Final Report. Unpublished report Clarence River Finance Group Pty Ltd, held as CR 1992 – 0438 Northern Territory Department of Mines and Energy.

Collins, W.J. and Shaw, R.D., 1995: Geochronological constraints on orogenic events in the Arunta Inlier: a review. *Precambrian Research 71, 315-346.*

Corbett, D.H., 2002: Field Report for Oneva Exploration P/L. *Unpublished Report DHC Geo-Services.*

Dawney, R 2002: Exploration Potential for Gold and Base Metals. *Unpublished Report prepared for Oveva Exploration P/L by AUSMEC, Brisbane.*

Long, B.E., 1974: ELs 110, 145, 155, 183, 283 and 346 - statistical analysis of geochemical data Harts Ranges for Russgar Minerals NL. Unpublished report Watts Griffis and McQuat Associates for Russgar Minerals held as CR 1974-0102 Northern Territory Department of Mines and Energy.

Pietsch, B., 2001: Towards an Arunta framework, in, AGES 2001, Annual Geoscience Exploration Seminar Abstracts. *Northern Territory Geological Survey*.

Saxon, M., 1996: Second Annual Report EL 8787 “Cadney Creek”, Alice Springs Sheet SF53-1114NT for period ending 19 October 1996. Unpublished report Pasminco Exploration; CR 1996-0877 Northern Territory Department of Mines and Energy.

Scrimgeour, I. and Raith, J., 2001: Tectonic and thermal events in the northestern Arunta Province. *Report 12 Northern Territory Geological survey.*

Stewart, A.J and Warren, R.G., 1977: The mineral potential of the Arunta Block, central Australia. *BMR Journal of Australian Geology and Geophysics 2, 21-34.*

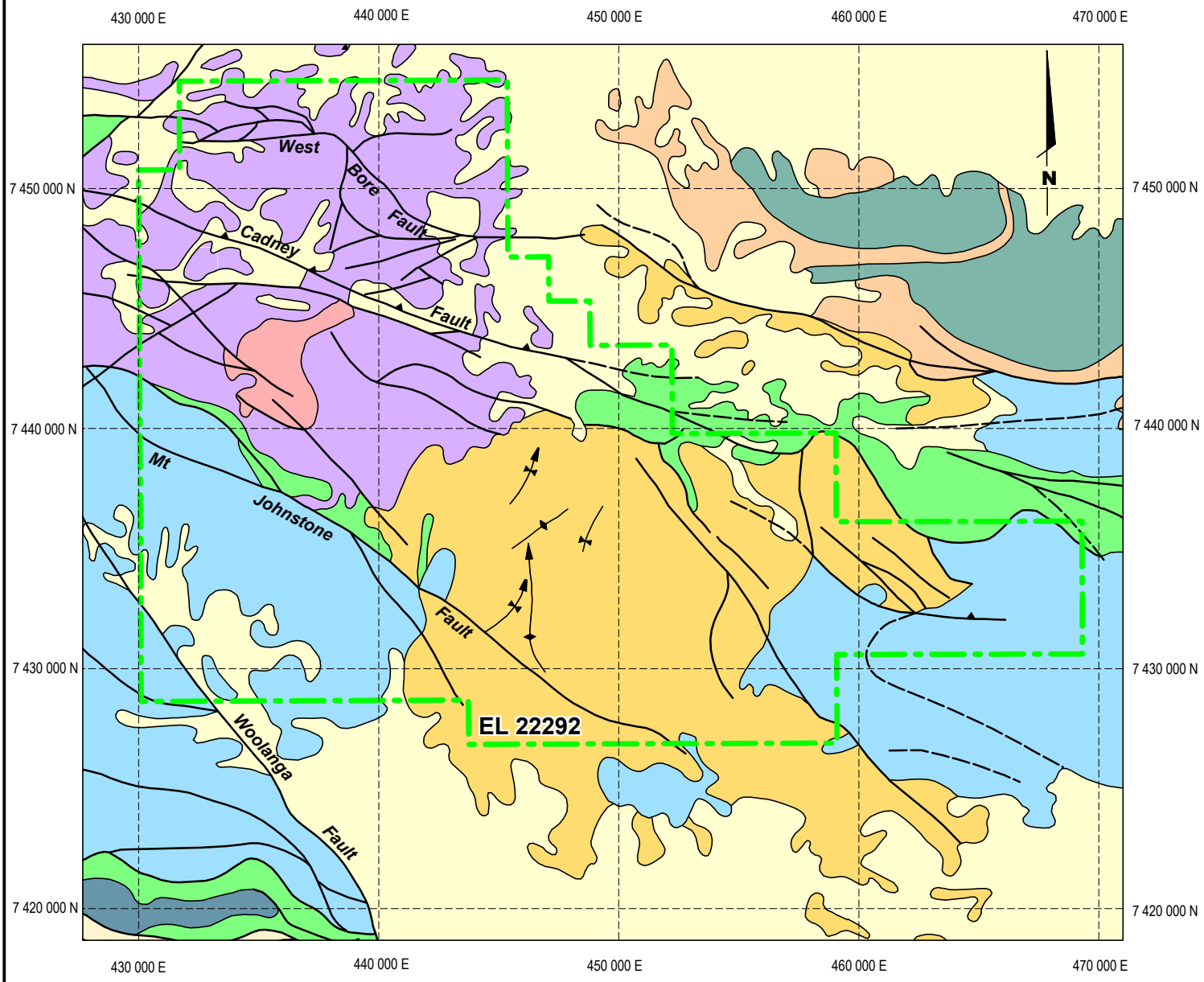
Stewart, A.J., Shaw, R.D. and Black, L.P., 1984: The Arunta Inlier: a complex ensialic mobile belt in central Australia Part 1: stratigraphy, correlations and origin. *Australian Journal of Earth Sciences* 31, 445-455.

Warren, G., 1994: Implications of Pb-isotope data for tectonostratigraphic correlations in the Proterozoic correlations in the Proterozoic of central Australia. *AGSO Newsletter 20, 11-13.*

Warren, R.G and Shaw, R.D., 1985: Volcanogenic Cu-Pb-Zn bodies in granulites of the central Arunta Block. *Journal of Metamorphic Geology* 3, 81-99.

Wygralak, A.S and Bajwah, Z.U., 1998: Geology and mineralisation of the Arunta Inlier, NT. *AGSO Journal of Australian Geology and Geophysics, 17, 35-45.*

Zhao Jian-Xin and Bennett VC, 1995. SHRIMP U-b zircon geochronology of granites in the Arunta Inlier, central Australia: Implications for Proterozoic crustal evolution. In WJ Collins and RD Shaw (Editors), Time Limits on Tectonic Evens and Crustal Evolution Using Geochronolgy: Some Australian Examples. *Precambrian Research* 71, 17-43.



GEOLOGICAL REFERENCE

Tertiary to Cainozoic — Sediments

Proterozoic & Palaeozoic — Retrograde & reactivated shear zones

Harts Range Group

Cambrian - Ordovician
- Amphibolite
- Metasediments

Late Proterozoic - Early Cambrian — Sandstone-conglomerate (Amadeus Basin)

Palaeo - Proterozoic
- Anamarra Orthogneiss
- Ankala Gneiss (meta sediments)
- Cadney Metamorphics (dominantly metasediments)
- Ongeva Granulite (felsic and mafic gneiss)
- Hillsoak Bore Metamorphics (mafic and felsic gneiss)

- Geological Boundary
- Fault
- Thrust fault
- Antiform with plunge
- Synform with plunge

Note: Geology simplified from Alice Springs 1 : 250,000 Geological Map Sheet

Projection: AMG Zone 53 (AGD 66)

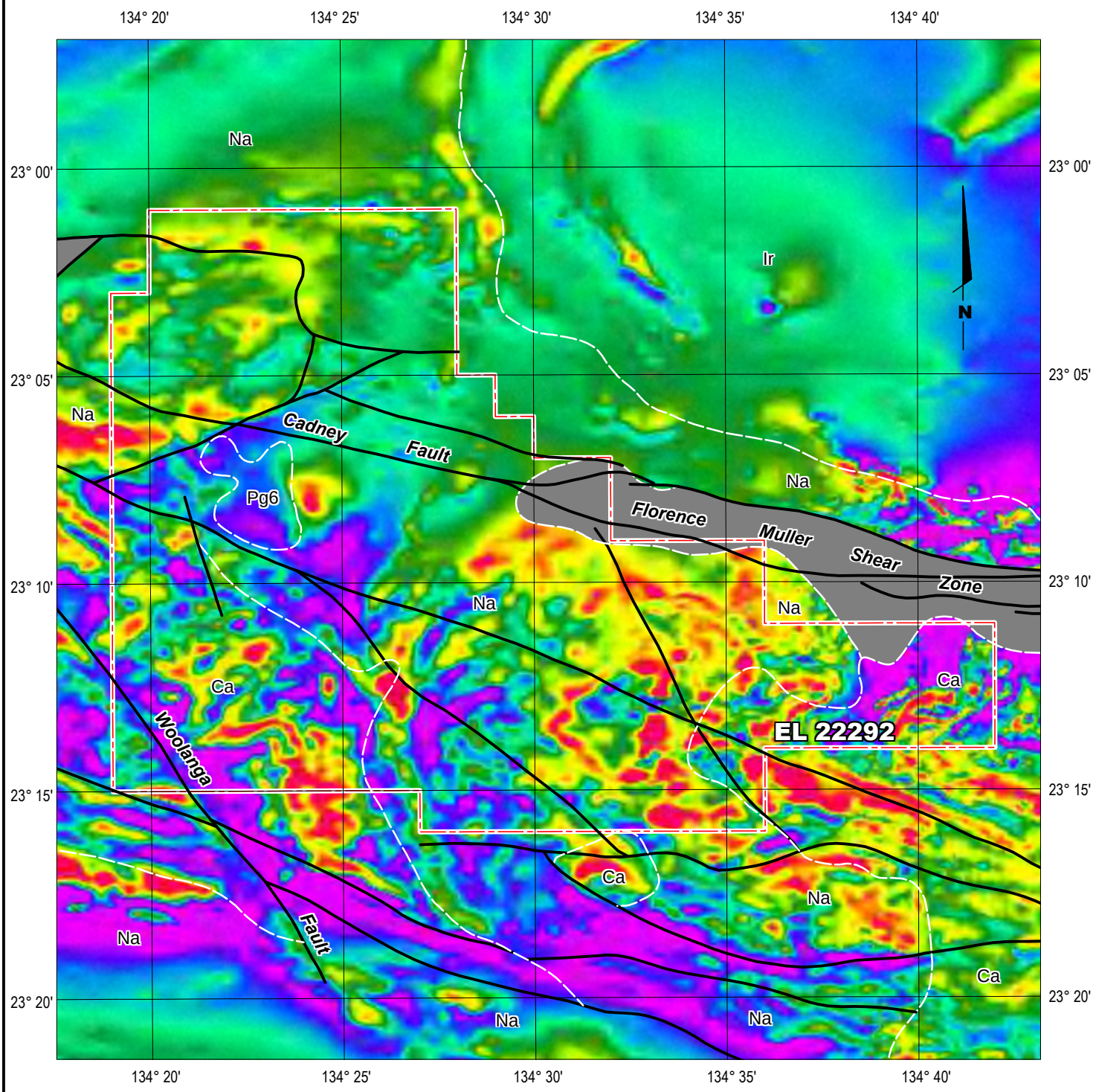
0 5 10 15km

SCALE 1 : 250,000

FIGURE 2

REGIONAL GEOLOGY

- EL 22292 -



REFERENCE

Strato-tectonic Packages

Ir	Irindina Package (650 - 500 Ma)
Pg6	Granite (1720 - 1740 Ma)
Ca	Cadney Package (>1770 Ma)
Na	Narwietooma Package (>1820 Ma)
	Fault
	Retrograde shear zone

0 5 10 15km

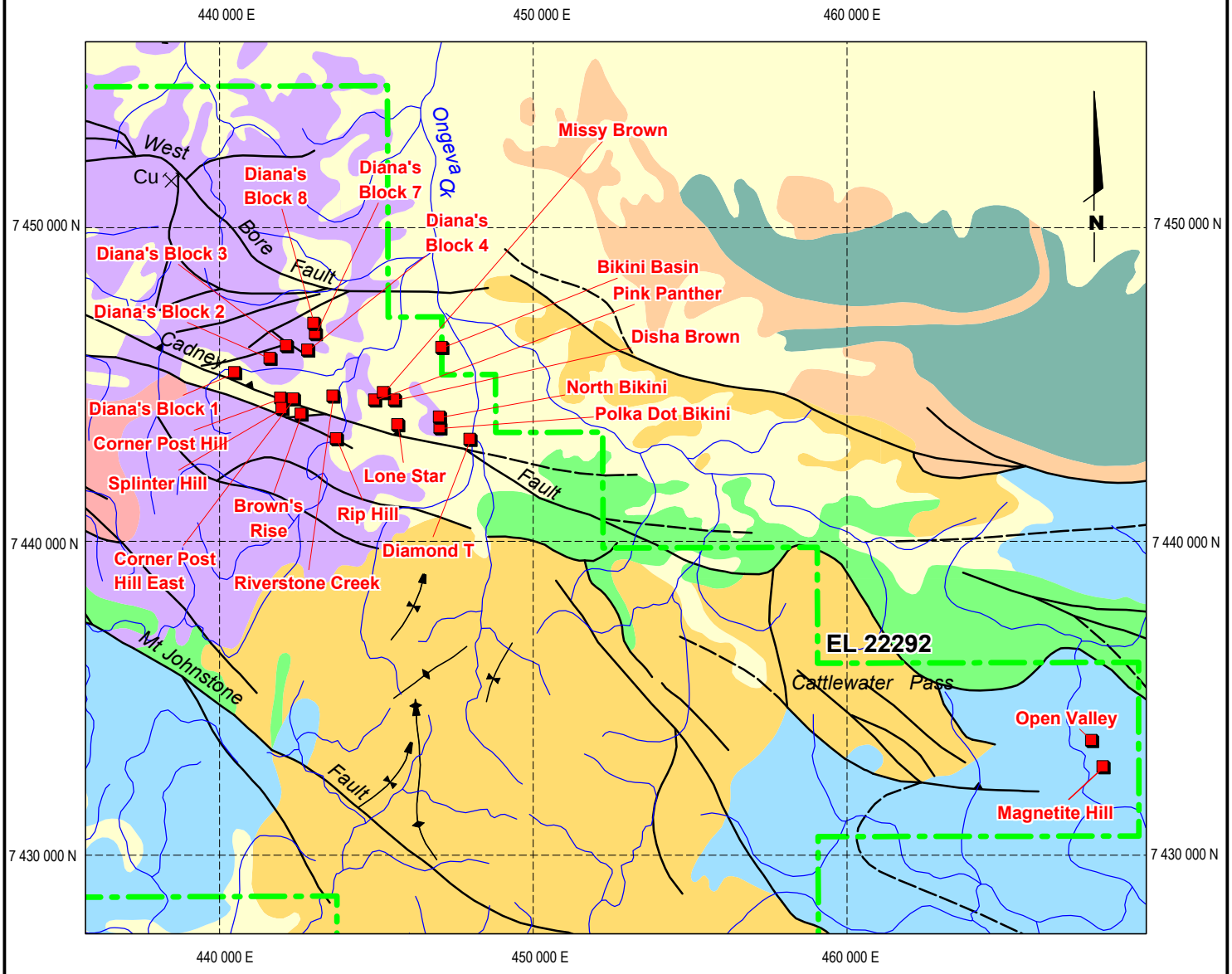
SCALE 1 : 250,000

Source: Image - Magnetic map of the NT, 2002 - Northern Territory Geological Survey)
Geology - Packages modified from Pietsch, 2001

Map Projection: MGA Zone 53 (GDA 94)

FIGURE 3

TMI AEROMAGNETICS AND STRATO-TECTONIC ROCK PACKAGES - EL 22292 -



GEOLOGICAL REFERENCE

Tertiary to Cainozoic — Sediments

Proterozoic & Palaeozoic — Retrograde & reactivated shear zones

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- Geological Boundary
- Fault
- Thrust fault
- Antiform with plunge
- Synform with plunge

Prospect

Note: Geology simplified from Alice Springs 1 : 250,000 Geological Map Sheet

Projection: AMG Zone 53 (AGD 66)

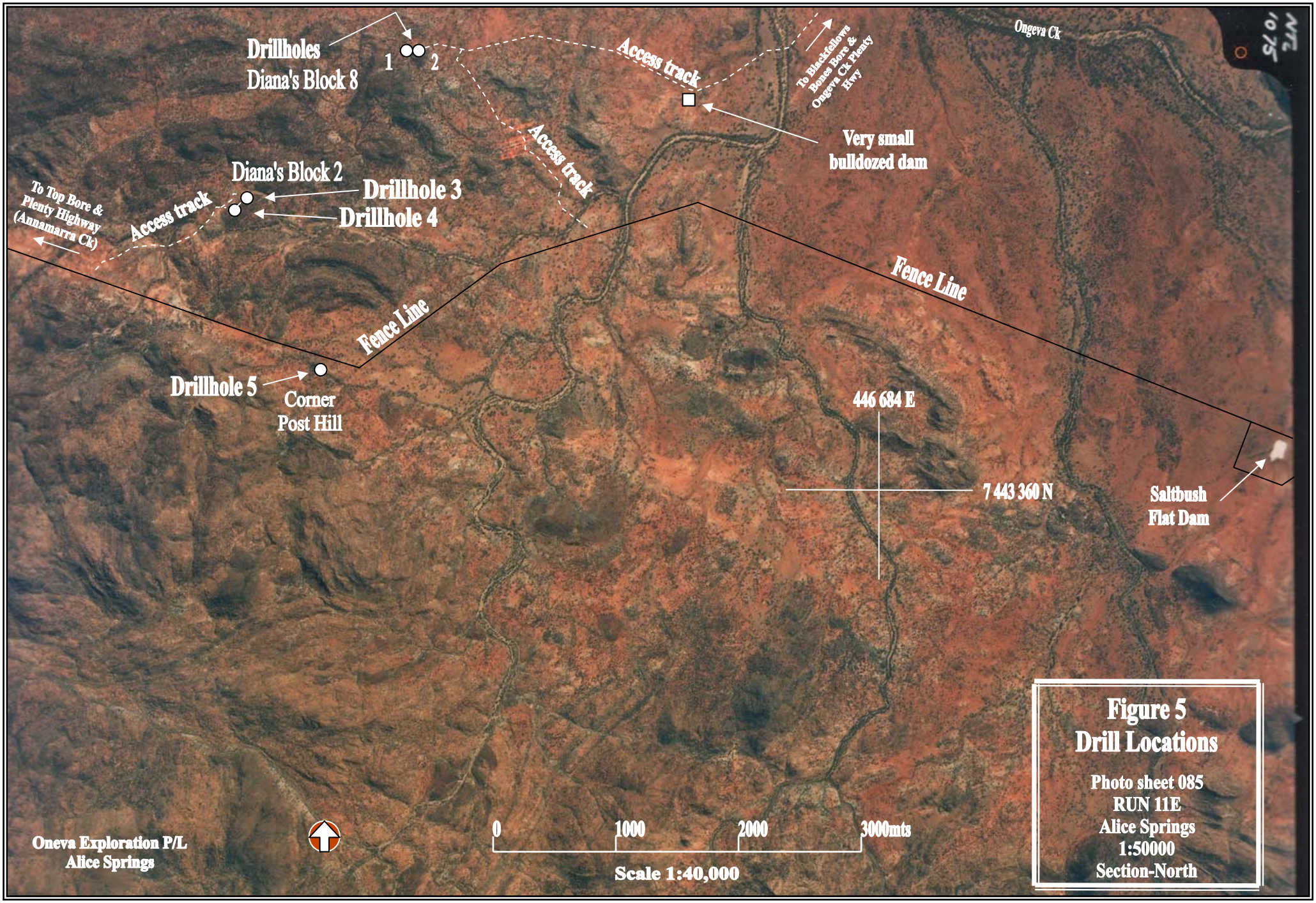
0 5 10 15km

SCALE 1 : 200,000

FIGURE 4

PROSPECT LOCATIONS

- EL 22292 -


Drillholes
Diana's Block 8
1
2
Access track
To Blackfellows Bones Bore & Ongeva Ck Plenty Hwy
Ongeva Ck
Very small bulldozed dam
Access track
Diana's Block 2
Drillhole 3
Drillhole 4
To Top Bore & Plenty Highway (Annamarra Ck)
Access track
Fence Line
Fence Line
Drillhole 5
Corner Post Hill
446 684 E
7 443 360 N
Saltbush Flat Dam
Oneva Exploration P/L
Alice Springs
0
1000
2000
3000mts
Scale 1:40,000
Figure 5
Drill Locations
Photo sheet 085
RUN 11E
Alice Springs
1:50000
Section-North

APPENDIX 1

Expenditure Summary

APPENDIX 2

Drillhole Set-up Details and Positions

APPENDIX 3

Drill Assays

APPENDIX 4

Consultant Geologist Report