



EL23682

Chilling Project

Annual Report

18 September 2003 to 17 September 2004



Cover Photo Sandstone ramparts surround the Chilling area from the northern approach.

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Submitter of Report: Paradigm North Pty Ltd

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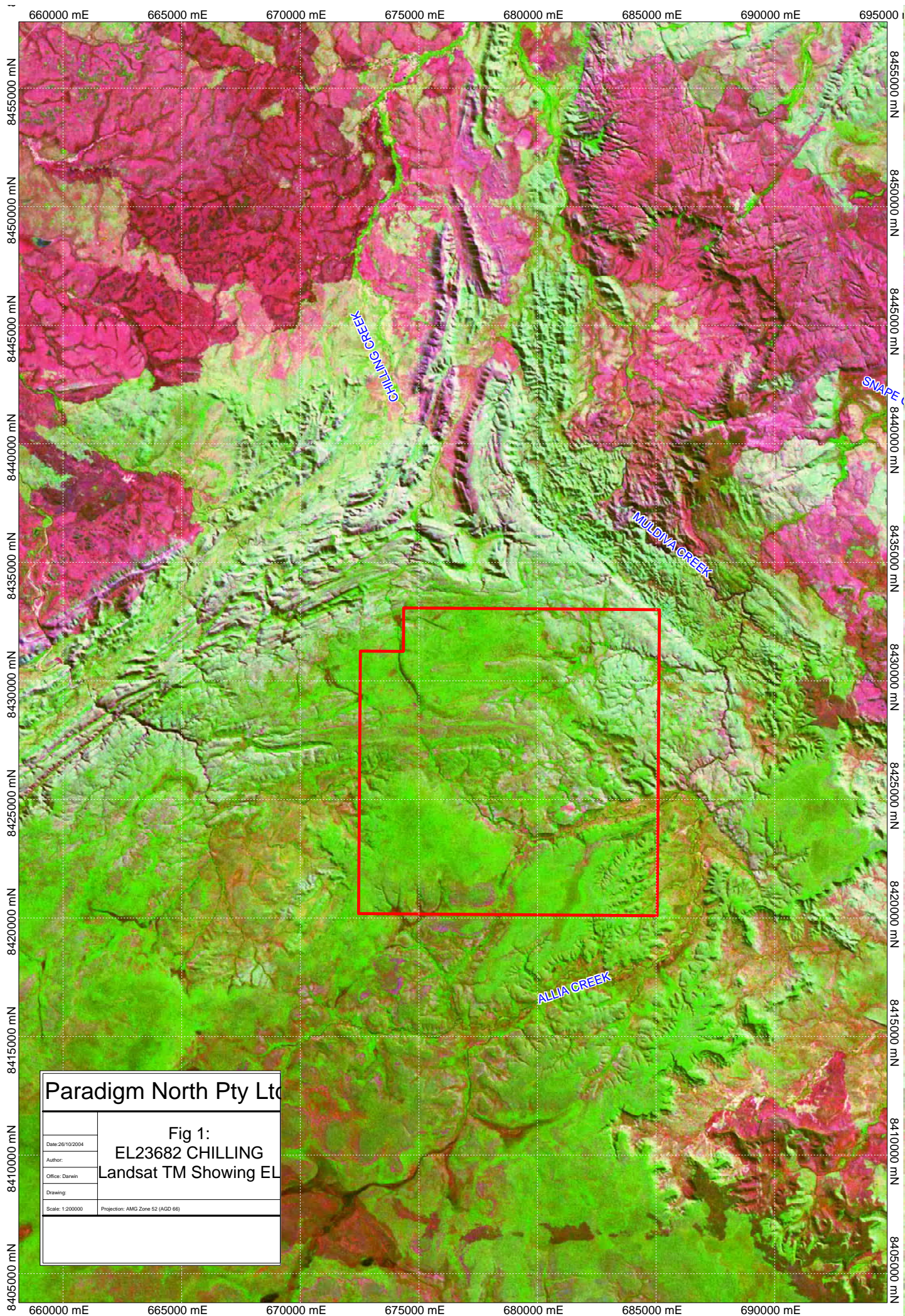
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1 Summary

The Chilling project (EL23682) is located 50km south of Daly River Crossing. The area lies on the Wingate Plateau, and is not accessible by road. Much of the EL is covered in a thin veneer of Cretaceous sediment, which in the north overlies Lower Proterozoic Chilling Sandstone, which has been intruded by Ti Tree Granophyre. In the south, the Cretaceous cover is more continuous, and it is likely that younger Proterozoic sedimentary units are present above the Lower Proterozoic units. The Cretaceous cover rocks even in the south though do not appear to be more than some tens of metres thick. A notable feature of the area is the presence of widespread spring- charged creeks and waterlogged swamps, despite the elevation of the plateau.

During the initial phase of exploration of EL23682, work consisted of:

- Literature research of previous exploration, geological survey and geophysical survey over the EL and surrounding district.
- Data compilation.
- Planning for upcoming field program.
- Helicopter- supported geological reconnaissance and collection of stream sediment samples, and -1.2mm samples for diamond exploration.
- Analysis by low level scans for 63 elements including precious metals and platinoids.
- Interpretation of results.
- Planning and budgeting.
- Helicopter – supported follow- up stream sediment sampling on closer sample spacing

In addition, contacts were made with other stakeholders in the area for introduction purposes, and the Sacred Sites register was searched.

While the area has not been intensively sampled in the past, it has not responded to the methods used in the past (BLEG) for gold exploration, and no previous encouragement from diamond exploration was received. Our reconnaissance results have indicated a substantially higher level of gold content in stream sediments, but the results of our follow up sampling to investigate this are still awaited. No encouragement was received from diamond samples.

Expenditure in the initial term of the EL has been \$40,455, and is requested at \$30,000 for the next term.

2 Introduction

2.1 Background

The Chilling area has been selected as a Primary Hub using confidential technology supplied by Paradigm Geoscience. The aim of the technology is to identify targets for mineral exploration with the same signatures as major mineral deposits. The method offers a means to identify important mineral resources without the need to acquire title to broad areas, with the resultant demanding access and land use challenges. Because of the restricted areas selected, more intensive exploration than would be normal in greenfields exploration can be focussed on the limited area by even junior mineral explorers such as the holders.

The Hubs have responded to the selection process in a similar fashion to major mineral deposits. It is to be expected that in most cases the target deposits do not outcrop, or it would already have been discovered, and it will be necessary to penetrate the overburden to make discoveries. The selection technique does not permit identification of target commodities, and these must be determined by consideration of regional metallogenic factors and field reconnaissance.

During this initial period of the Licence, the aims of exploration have been:

- the identification of likely target commodities,
- determination of local exploration constraints,
- establishment of broad exploration models, and
- development of plans for cost effective future exploration

The first year's program therefore concentrated on research of past exploration in the area, followed by acquisition of available maps, geochemical, and geophysical data, planning of field reconnaissance, and then brief field helicopter supported field visits to the localities for collection of orientation and reconnaissance samples, contact with local stakeholders, and familiarisation with local field conditions. After the initial results were received, a second reconnaissance visit for collection of closer- spaced stream sediment samples was completed.

2.2 The Target Area

The Chilling Target Area (EL 23682) is the closest to Darwin of the initial group of target areas. However it is also one of the most inaccessible, lying over the Wingate Plateau. The area has no access tracks, the closest ground access being the track to the Fletcher's Gully gold mine about 7km north of the northern boundary of the area. Rugged quartzite mountains of Chilling Sandstone surround the area on the north east and west approaches, while to the south, flat topped but heavily dissected Cretaceous sediments cover middle Proterozoic sediments of the Auvergne Group.

The target area does lie at or close to a locus of important geological features: it straddles the margin of the Litchfield Province, the Fitzmaurice Mobile Zone, the Pine Creek Geosyncline, the Tolmer Group, the Auvergne Group, and the Daly Basin, and some important bounding structural features intersect close by or within the EL area. There are also an unusual diversity of intrusive rocks in the area.

Within the EL, the Chilling Sandstone forms the main basement outcrop. While this is dominantly quartzite, it does contain intercalated altered acid lava and pyroclastics, and is intruded by Ti- Tree Granophyre. Where it is exposed in the northern sector of the EL, the Chilling sandstone commonly is silicified and cut by veins of milky quartz.

2.3 Tenure

EL23682 was granted for a six-year term on 18 September 2003 (expiring 17 September 2009). The title covers an area of 48 sub-blocks (159.8km².) The area included in the title extends between 131°36'E and 131°43'E, from 14°10'S to 14°17'S, except for the north western- most block. The EL is held by ACN 099 478 074 Pty Ltd, a wholly owned subsidiary of Paradigm North Pty Ltd. A \$5000 security deposit has been lodged in cash.

2.4 Location and general description

The Chilling area is 50km south of the Daly River Crossing, which is connected by sealed road to the Stuart Highway and Darwin. Road access to the area is not possible. We utilised jetranger helicopters to inspect and sample the area. The EL falls on NT Portion 2700, owned by the NT Land Corporation, formerly Fish River Station, and sub-leased to Mr. Alan Fisher of Swim Creek Plains for pastoral purposes. The area is subject to an Land Claim under the Aboriginal Land Rights Act (NT), and a Native Title Claim, No DC01/28, Fish River.

2.5 Exploration Rationale and Work Completed

The geological setting of the Target Area suggests that a wide variety of deposit styles could be present in the EL. The district has produced gold and tin, from granite- related mineralisation, there is some minor uranium mineralisation, and the district has basic intrusives which might host nickel- copper- or platinoid mineralisation. However, like the target selection methodology, the exploration program itself makes few assumptions. A general pattern for the program has proceeded as follows:

- Literature research of previous exploration, geological and geophysical surveys over the EL and surrounding district
- Data compilation
- Acquisition and interpretation of NTGS geological and airborne geophysical data sets
- Research on the geology and exploration signature of potential target deposits
- Planning for field program and liaison with stake holders
- Geological reconnaissance of the area and surrounds; collection of appropriate samples for geochemistry, heavy mineral examination , or petrography
- Collection of reconnaissance drainage sediment samples for diamond exploration
- Collection of reconnaissance drainage sediment samples for geochemical scanning
- Processing and interpretation of results
- Planning of additional fieldwork.

Diamond samples were processed and examined by Global Diamond Services Pty Ltd of Perth, while all geochemical samples were prepared by North Australian Laboratories of Pine Creek, and Fire assayed for gold. Pulps were forwarded to NT Environmental Laboratories for analysis by ICP OES and MS for 61 elements. Later a second firing was prepared at NAL and analysed for trace levels of Au and platinoids by ICPMS at NTEL. For the follow up stream sediment sampling, samples have been prepared by NAL, and fire assay prills have been prepared for analysis at NTEL.

2.6 Results of Literature Search

The district has in fact been the subject of several extensive exploration programs for a range of commodities, as outlined in the table below. It appears that the work of Mobil, who in Joint Venture with Suttons Motors completed a major exploration program in the district in the early 1980s, did not extend to the area of the EL. Both Ashton and Stockdale sampled the area for diamonds, but the results were negative.

Carpentaria Exploration Company (CR1986/120) completed quite intensive investigations of Terry's Prospect, a series of narrow but in places high grade veins in and around the outcropping area of Berinka Volcanics to the north west of EL23682. They also conducted regional gold exploration over an area which included EL23682, and in the process identified the Bubbles Prospect about 5km west of the western

boundary of the EL, and the Anniversary Ridge Prospect, which is associated with a breccia zone which trends beneath Cretaceous cover on the western margin of the EL. Another area of elevated BLEG and As results was found immediately off the north east corner of the EL, and is perhaps an extension of the Fletcher's Gully mineralisation. The area of the plateau country within the EL was not intensively sampled, perhaps because of the absence of suitable sample sites for BLEG sample collection.

PNC Exploration (CR1995/188) in the mid 1990s undertook an extensive examination on and around an earlier discovery of minor secondary uranium mineralisation by Planet Management and Research Pty Ltd in the late 1960s. This is associated with alteration zones in the Soldier's Creek Granite, which forms a batholith several km to the east of the eastern boundary of the current EL. This granite is heavily greisenised and contains the numerous small tin showings at Collah near its southern extremity, about 20km to the south east of EL23682. PNC did take several BLEG and stream sediment samples within the area of EL23682, but these did not return anomalous values. Indeed, only one sample returned detectable levels of gold. PNC also completed a 200m spaced airborne magnetic and radiometric survey which covers the licence area.

Author	Holder	Licence	Year	NT report	Target	Main activities
Andrew Mackie	PNC Exploration	EL8373	1995	CR95/188	Cu-Au	Airborne geophys; 200m line spacing Follow up of 25 rad and 4 mag anom. Olympic Dam style U-Cu-Au in Soldiers Cap Granite Stream sediment geochemistry Stream sediment geochemistry
P G Simpson and R W Dennis	Carpentaria Exploration Co. Pty Ltd	EL4650	1985	CR86/120	Au	Costeaming Drill test targets Airborne thematic mapper Stream sediments and geophysical surveys do not extend to EL
	Mobil Energy Minerals Australia	EL1597		Numerous	U	
	Ashton	EL2313	1982	CR82/17	Diamonds	26 samples for diamonds
	Stockdale Prospecting	EL7380			Diamonds	77 stream sediment samples, 129 follow up samples

The area of EL23682, while surrounded by prospective geological settings which have been the subject of serious exploration programs, has not been singled out for thorough study, probably because of access difficulties and the presence of extensive thin cover rocks, but perhaps also through an absence of good sample sites because of the extensive wet swampy conditions, even in many of the major drainage channels.

3 Geological Data

The most recent mapping of the area is the NTGS 1:100,000 Wingate Mountains Sheet, published along with explanatory notes, in 1989 (Edgoose *et al*, 1989). The area is mapped as Lower Proterozoic Chilling Sandstone, with up to 400m of intercalated altered rhyodacite, rhyolite and banded tuff in the northern sector of the EL. These are intruded by Ti- Tree Granophyre within the EL, and, outside the area, basic sills assigned to the

Wangi Basics. From our own observations, the sandstone is frequently silicified, and in places heavily quartz veined.

The Lower Proterozoic rocks are overlain directly by Cretaceous sediments, which are probably no more than 50m thick. South of Muldiva Creek and within the EL, the Angalarri Siltstone of the Auvergne Group is exposed in stream valleys beneath the Cretaceous. The contact where exposed has been mapped as faulted; however this represents the northernmost exposure of the Auvergne Group, and may in part be a depositional surface within the EL. The geological setting is shown in Fig. 2, and the legend is shown in Fig. 2A.

4 Geophysical Data

Geophysical data covering the title was acquired by NT Geological Survey in 1984. A Total Magnetic Intensity image of the EL and surrounding district is included as Figure 3. This was flown on 500m line spacing at 100m ground clearance. The entire area of the EL was also covered by PNC in their 1995 survey at 200m line spacing and 80m terrain clearance.

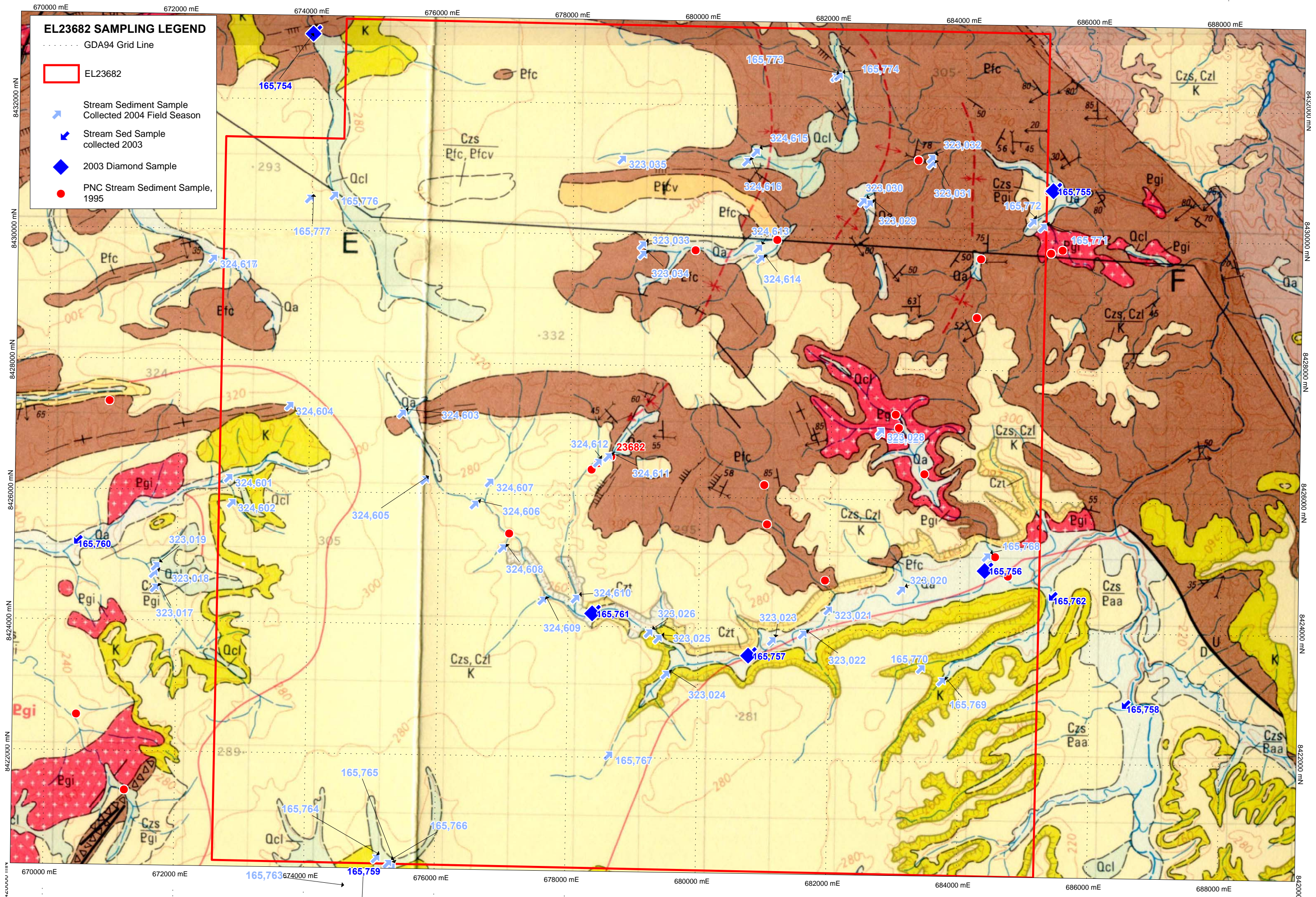
The digital data for this survey have recently been acquired and this will be reprocessed in the near future. There is strong character in both the magnetic and radiometric data. The former appear to be dominated by bodies of Wangi Basics, including a very strong feature associated with the main outcrop area near the north west corner of the Wingate Mountains Sheet. Several less intense discrete highs are present in the district, including some within the EL. Strong radiometric character mainly illustrates the distribution of granites. It is intended to complete the reinterpretation of the geophysics including incorporation of the PNC data after all geochemical results are to hand.

5 Field Program

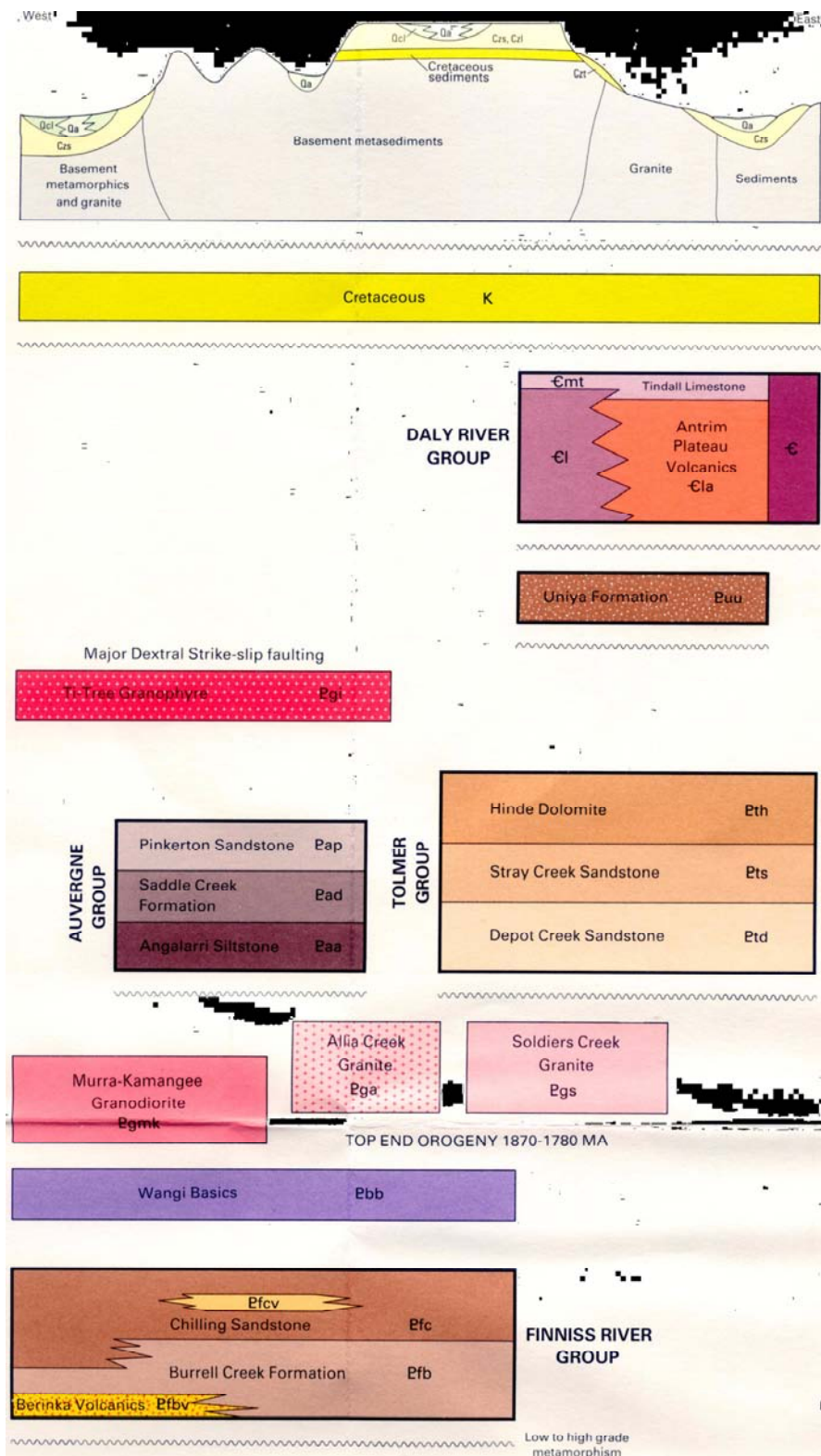
Within the tenement area, surficial Cretaceous rocks cover most of the more prospective older rocks, and, despite the generally favourable structural setting of the EL, there is no known mineralisation in the area, and the results of previous exploration have not been positive. The presence of a Primary Paradigm Hub within the area means that despite this apparent discouragement, the holders would carefully examine the area, particularly as the target is not generally expected to outcrop. The search is complicated by the absence of road access, which requires that for initial reconnaissance, helicopters are needed; and by the poor stream development on the plateau. There is a surprising spring presence in the plateau, with much of the areas of low relief filled with swampy black soil flats which appear to be perennially wet.

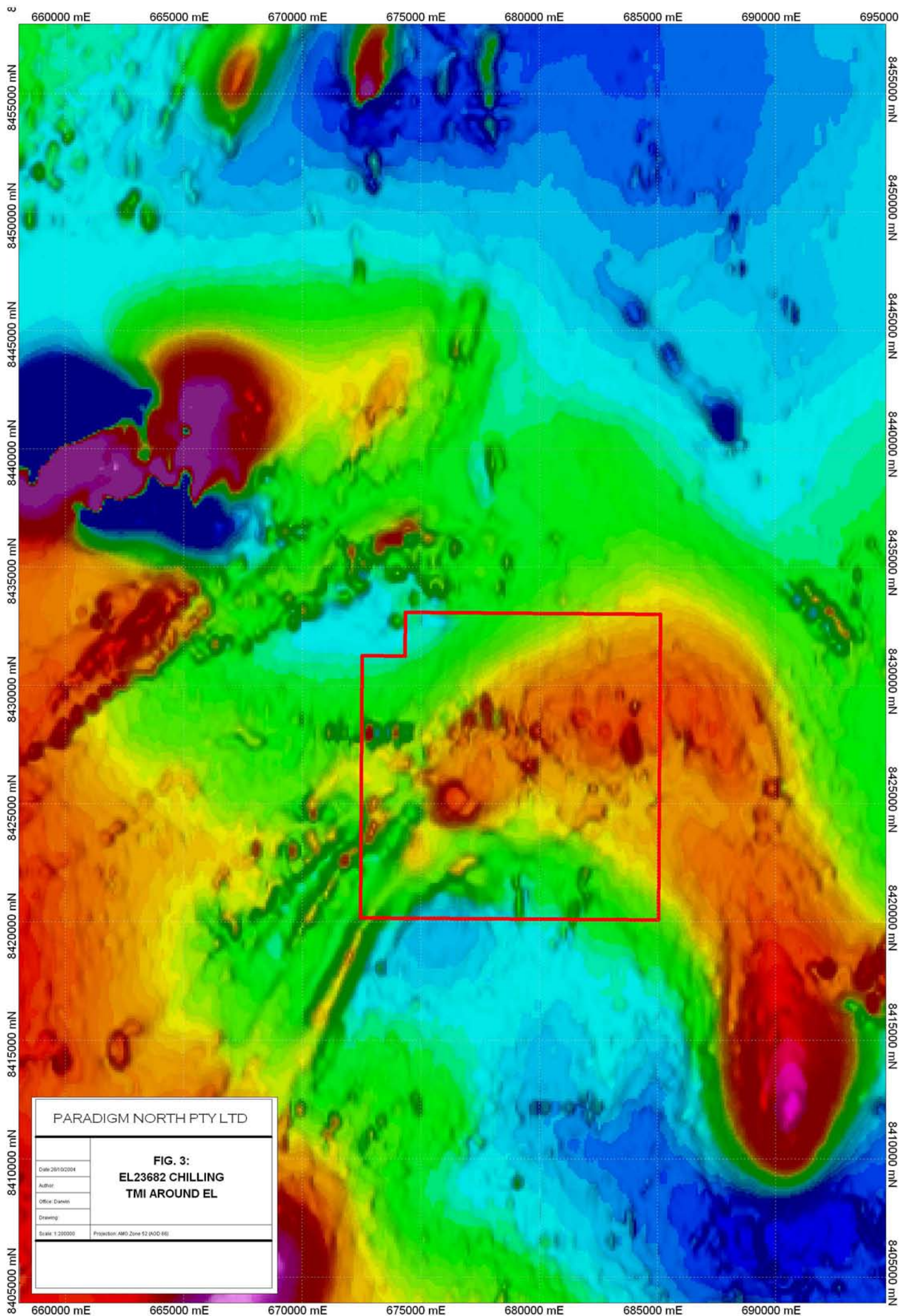
A further consequence of this is that there is a paucity of material suited to the most common method of regional gold exploration, bulk cyanide leach (BCL), and it is possible that active carbon in the samples may resorb gold in solution, leading to low results in all but total digestion methods such as fire assay. Little if any of the prior sampling utilised fire assaying.

Fieldwork by Paradigm North commenced in the area in late 2003, with a helicopter-supported reconnaissance expedition to collect baseline geochemical samples, and for familiarisation and meetings with some of the stakeholders. It proved difficult to find many good sites for diamond sampling in the streams draining the area, and soils were wet. After the results of stream sediment sampling were received, a further more detailed phase of sampling was completed.



EL23682 CHILLING GEOLOGY MAP LEGEND (FROM NTGS)





6 Results of Paradigm North Target Reconnaissance

6.1 DIAMOND SAMPLING (APPENDIX 1)

Because of the paucity of suitable stream development in the EL, only a few good alluvial traps are developed. Only five diamond sample sites were considered worthy of sampling from the nine sites visited during initial reconnaissance. The results of the sampling were negative, confirming the earlier work in the area. Nonetheless the reconnaissance did not provide complete coverage of the area. The summary of results is presented in Appendix 1. Location of diamond sample sites is shown on Fig. 2.

6.2 -80# STREAM SEDIMENT SAMPLING (APPENDIX 2)

A total of nine stream samples were collected during the initial reconnaissance. These were wet, and had to be dried prior to sieving at the lab. This was done without any comminution, which resulted in limited material passing the sieve. The samples were fire assayed to 1ppb detection limit and pulverised for extraction using G400 Total Acid Digest followed by ICP OES/MS for 61 major and trace elements. Later it was decided to perform low level gold- platinoid analyses on fire assay prills prepared at NAL. There was insufficient sample for three of the nine samples, but the remainder generally confirmed the surprisingly high gold levels obtained in the original fire assays. The platinoid elements were not detected. The results of all analyses are presented in Appendix 2. The location of samples is shown on Fig. 2.

A second round of stream sediment sampling was undertaken to follow up the initial results. A total of 50 stream sediment samples and one rock sample were collected. The locations are listed in Appendix 2 and illustrated in Figure 2. Analytical results from this sampling are not yet available.

6.3 ROCK CHIP SAMPLING (APPENDIX 2)

Only one rock sample was collected, of limonite stained Cretaceous? claystone encountered in low outcrop below swampy flats in the south of the EL. This was during the second phase sampling. Little evidence of mineralised rock has been encountered in streams, though there are few channels which exhibit coarse alluvial sediment despite the considerable water volumes that the streams must carry.

7 Geological Observations

The stream sediment samples from the first phase reconnaissance contain above-normal concentrations of gold, cadmium, caesium, antimony and uranium. Given the known setting we might expect the environment to have potential for a variety of deposit styles, including:

- Unconformity related uranium- gold deposits
- Volcanogenic massive sulphide deposits
- Skarn Tin deposits
- Mafic intrusive related styles of mineralisation
- Pine Creek Geosyncline style gold deposits

The setting is not yet well enough understood to concentrate solely on one of these target types, but based empirically on the results so far available, the target most favoured would be one with gold mineralisation. The difference between the results obtained in the reconnaissance sampling and the results obtained by previous explorers using cyanide leach techniques remains to be explained. If our previous results are confirmed in the recently completed re-sampling of the area, questions will arise about commonly accepted gold exploration procedures.

Nonetheless, the target is not expected to outcrop, and the reconnaissance to date will hopefully identify broad areas which can be discarded before the next anniversary of the EL.

8 Recommendations for Follow-up

The strong geochemical response for gold warranted a quick follow up, and the first phase of this has been completed though results of the more detailed sampling have not yet been received. The future direction of the program will depend very much on the results obtained from the new survey, which are expected within a month. It is possible that this will provide direct indications of element values to focus the search, but even if there is still a diffuse response in the values, more careful examination of this target is anticipated. This will in the first instance involve:

- Evaluation of the outstanding geochemical results, which could contribute new directions to the program.
- Evaluation of the PNC Geophysical data and probable reprocessing of this. Reinterpretation of the data in the light of a clearer understanding of the possible geological variables and ore deposit models.
- The above two steps will form the direction of the future field program. This might take the form of detailed mapping and sampling, and/or electromagnetic geophysical surveys to characterise and generate targets for possible drill testing in year three of the EL.

Expenditure in the current term of the licence will be at least \$30,000.

9 Expenditure Statement

During the reporting period, expenditure has been as follows:

Geological Services:	\$14,200
Geophysical Services	\$4,000
Analytical Services	\$2,450
Travel and Accommodation	\$1,090
Consumables	\$600
Helicopter Charter	\$13,500
Vehicle Expenses	\$2,000
Office Expenses	\$2,615

TOTAL	\$40,455
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10 References

- Ashton Mining Limited, 1982. Annual Report EL 2313. NTGS CR82/17.
- Edgoose, C.J., Fahey, G.M., and Fahey, J.E., 1989: Wingate Mountains NT NTGS 1:100000 Explanatory Notes.
- Mackie, Andrew, 1995: Annual Report EL8373, PNC Exploration Pty Ltd. NTGS CR95/188.
- Simpson, P.G. and Dennis, R.W., 1985: EL4650 Annual Report, Carpentaria Exploration Company. NTGS CR86/120.

APPENDIX 1: DIAMOND SAMPLING RESULTS									
SampNo	North	East	Stype	Comments	Background Mineralogy Abundant	BMCommon	BMSome	BMFew	BMTrace
165754	8433007	673987	-1.2mm	both wet; -80# to be dried and screened at lab		Ilmenite;Limonite;Tourmaline;Leucoxene		Rutile;Sphene;Zircon	Almandine;Anatase
165755	8430761	685357	-1.2mm	both wet; -80# to be dried and screened at lab; ck has many permanent waterholes	Limonite			Haematite;Ilmenite;Zircon;Leucoxene	Rutile;Staurolite;Anatase
165756	8424936	684378	-1.2mm	both wet; -80# to be dried and screened at lab;gravelly site but trap not good -too much water	Limonite		Ilmenite;Rutile	Zircon	Anatase
165757	8423588	680769	-1.2mm	both wet; -80# to be dried and screened at lab;good washy root site between permanent pools		Limonite;Rutile;Leucoxene		Ilmenite;Kyanite;Topaz;Tourmaline;Zircon;Anatase	
165761	8424200	678371	-1.2mm	both wet; -80# to be dried and screened at lab; seeps permanent wholes, gravelly banks; good trap.	Limonite	Leucoxene	Tourmaline	Haematite;Ilmenite;Anatase	Rutile;Zircon

APPENDIX 2: STREAM SEDIMENT AND ROCK SAMPLING				
SampNo	North	East	Stype	Comments
165754	8433007	673987	-80#	both wet; -80# to be dried and screened at lab
165755	8430761	685357	-80#	both wet; -80# to be dried and screened at lab; ck has many permanent waterholes
165756	8424936	684378	-80#	both wet; -80# to be dried and screened at lab;gravelly site but trap not good -too much water
165757	8423588	680769	-80#	both wet; -80# to be dried and screened at lab;good washy root site between permanent pools
165758	8422863	686508	-80#	both wet; -80# to be dried and screened at lab; good channel gravelly but small catchment no ^ sample taken
165759	8419271	674887	-80#	both wet; -80# to be dried and screened at lab; permanent waterholes
165760	8425155	670418	-80#	both wet; -80# to be dried and screened at lab;channel poorly developed with scattered waterholes, no gravel
165761	8424200	678371	-80#	both wet; -80# to be dried and screened at lab; seeps permanent wholes, gravelly banks; good trap.
165762	8424504	685368	-80#	both wet; -80# to be dried and screened at lab;gravelly ck red mud but small drainage area.
165763	8419988	674621	-80#	site42
165764	8420465	675159	-80#	mud;site41
165765	8420338	675395	-80#	mud;site40
165766	8420390	675341	rock float	
165767	8422098	678705	-80#	wet grey sandy soil; site31
165768	8425210	684460	-80#	wet sandy grassroots; site36
165769	8423301	683792	-80#	site 37
165770	8423486	683474	-80#	site38
165771	8430262	685258	-80#	seivedsandy silt fm bank; site 17
165772	8430335	685100	-80#	seivedsandy silt fm bank; site 18
165773	8432515	682047	-80#	wet sandy silt; site 7
165774	8432532	682100	-80#	seived gy sandy loam; site 8
165775	8429604	672550	-80#	muddy grassland; site 47
165776	8430594	674394	-80#	wet black loam; site 2
165777	8430545	674017	-80#	seived brn sandy loam; site1
323017	8424562	671719	-80#	
323018	8424778	671700	-80#	
323019	8424890	671730	-80#	
323020	8424680	683160	-80#	
323021	8424362	682046	-80#	
323022	8423988	681657	-80#	
323023	8423876	681186	-80#	
323024	8423342	679563	-80#	
323025	8423888	679440	-80#	
323026	8423974	679296	-80#	

SampNo	North	East	Stype	Comments
323027	8427070	682811	-80#	
323028	8427104	682807	-80#	
323029	8430586	682588	-80#	
323030	8430614	682492	-80#	
323031	8431204	683542	-80#	
323032	8431294	683540	-80#	
323033	8429904	679122	-80#	
323034	8429760	679130	-80#	
323035	8431210	678798	-80#	
324601	8426256	672830	-80#	
324602	8425874	672882	-80#	
324603	8427280	675475	-80#	
324604	8427370	673750	-80#	
324605	8426262	675839	-80#	
324606	8425898	676602	-80#	
324607	8426244	676829	-80#	
324608	8425238	677040	-80#	
324609	8424446	677661	-80#	
324610	8424486	678168	-80#	
324611	8426658	678639	-80#	
324612	8426568	678483	-80#	
324613	8429882	680900	-80#	
324614	8429722	680937	-80#	
324615	8431352	680846	-80#	
324616	8431206	680708	-80#	
324617	8429604	672550	-80#	repeat sample site 47

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

APPENDIX 2: 1	
SampNo	Zr
165754	227
165755	167
165756	201
165757	136
165758	54.8
165759	60.8
165760	107
165761	159
165762	101
165763	
165764	
165765	
165766	
165767	
165768	
165769	
165770	
165771	
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