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Tennant Creek 250k Map Sheet

A.W.Mackie, March 2012

CONTENTS

FIGURES

EL26706 TENNANT SOUTH FINAL REPORT

1.INTRODUCTION

The licence area comprising 35sqkm of mainly flat-lying spinifex vegetated aeolian sand, 30km south of Tennant Creek comprises a sinuous low ridge of Flynn Subgroup (1852Ma) greywacke with minor siltstone interbeds cropping out for 6km. It has been subjected to several rockchip samplings over the last 35 years for negative gold/basemetal assay results .

2.LOCATION and ACCESS(refer Figure1)

Access to licence area from Tennant Creek is south via Stuart Highway for 35km to Kelly Well turnoff , then west for 19km along a well maintained beef road until the Alice Springs to Darwin Gaspipeline access track is reached which neatly bisects the licence area thus providing excellent vehicular access.

3.TENURE

EL26706 was granted to A.W.Mackie Febuary 4, 2009 comprising 11 sub blocks of Tennant Creek Station (PPL1142) for 6 years. A waiver of reduction was approved December 21, 2010. However it was surrendered Febuary 14, 2012.

4.PREVIOUS EXPLORATION (refer figures 2,3)

From 1972 to 1997 the licence area was aeromagnetically surveyed five times ie 1972 Nobelex 200m l s, 1976 Geopeko 250m l s, 1981 AOM 250m l s(T1-15 series anomalies), 1988 PNC 500m l s(KLC,KLB,KLD anomalies), 1997 Normandy Helimag 75m l s(Squash anomaly) delineating numerous AMAG responses indicative of possible Tennant Creek – type mineralised (Cu-Au) magnetic ironstones?However only Squash prospect (a modelled Helimag anomaly) was drill tested, by Normandy to a final depth of 365m for inconclusive results, intersecting Flynn Subgroup silt/sandstone to 59m followed by aplite dyke to 73m then more, weakly chloritised silt/sandstone Flynn Subgroup to 231m followed by chloritically altered and pyritised silts/ sandstones of interpreted Warramungu Formation (1860Ma) to the end of the hole? The licence area has been regionally and locally gravity surveyed by PNC and Normandy respectively again for unspectacular results .

5.GEOLOGY (refer figure 2)

Tennant Creek-type IOCG deposits are either within or adjacent to discordant,hydrothermally altered ironstones exclusively hosted by 1859 – 1862 Ma Warramungu Formation metasediments.No exceptions! Age of Cu-Au-Bi mineralisation is consanguineous with intrusion of the Tennant Creek Granite suite 1845 – 1848 Ma. Warramungu Formation flysch sequence are the oldest rocks within the Palaeoproterozoic Tennant Creek Inlier comprising turbiditic volcanic litharenites deposited in a rapidly subsiding ensialic transtensional basin subsequently deformed (D1) metamorphosed and intruded by syn-orogenic I-type granites during the Barramundi Orogeny.Deposition of overlying volcanosedimentary Flynn Subgroup (1850 – 1852Ma, rocks diagnostically undeformed by D1) is coeval with above intrusive events as indicated by preponderance of rhyolitic to rhyodacitic felsic tuff/ignimbrites derived from nearby consanguineous

1840 – 1850Ma plutons.Continued dextral shearing of the basin produced regional east- west trending open folds,disharmonic folds,box-chevron-kink folds and doubly peaking anticlines with a weak crenulation cleavage in Warramungu rocks while northwest trending open folds were generated within Flynn Subgroup sequence which coincidently is the predominant cleavage orientation observed within greywackes of the lateritically capped ridge cropping out for 6km on EL26706 ie trends 330 degrees dipping steeply east north east?

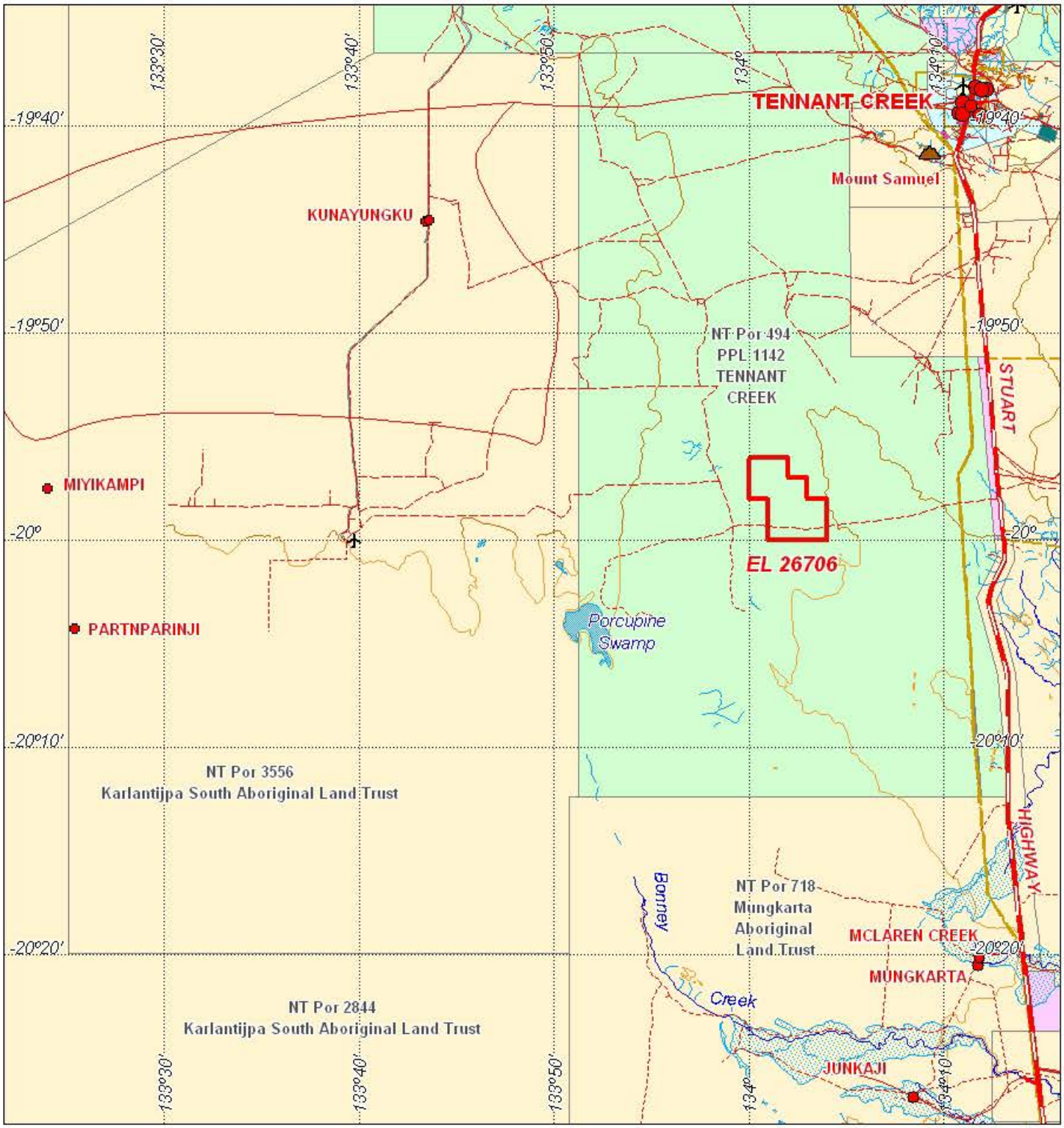
6.EXPLORATION PROGRAM (figures 2 , 3)

WGC 97 Normandy Billiat 75m l s HELIMAG geophysical data was acquired levelled and image processed resulting in the delineation of 11 AMAG anomalies within the licence area which are ranked in terms ofpotential prospectivity for ironstone hosted Cu-Au deposits from 1 to 11. Interestingly Squash prospect is number 4. However none of the 11 anomalies are intense dipoles, all are less than 200 nanoteslas ie typical Tennant Creek field primary non-ironstone responses in stark contrast to White Devil's (850000ozs) 5000 nanotesla ironstone response.

7.CONCLUSIONS and RECOMMENDATIONS

The hematitically altered,laterite-capped,low greywacke ridge rising above the surrounding sand plain ,trending north west for 6km dominating the licence area is assigned to Flynn Subgroup deemed unprospective for Tennant Creek – type ironstone hosted Cu-Au-Bi deposits.

All of the 11 HELIMAG delineated magnetic anomalies are less than 200 nanoteslas and are considered non-ironstone responses hence the licence area's prospectivity is low for Tennant Creek – type IOCG deposits and is therefore surrendered.



EL Boundary

Highway

Road / track

River / drainage

Homestead / Community

Mountain Peak / Hill

Airflight Landing Strip

50m Contours

Perpetual Pastoral Lease

Aboriginal Freehold Land

10 0 10 20 30

Kilometers

Scale: 1:500,000

N

ALISTAIR WANSBONE MACKIE

EL 26706 "TENNANT CREEK 2"
Cadastre, Topographic & EL Location

Drawn: CAPRICORN	Datum: GDA94	Ref: SE5314
Scale: 1:500,000	Date : JAN 2010	Plan No: MAC083

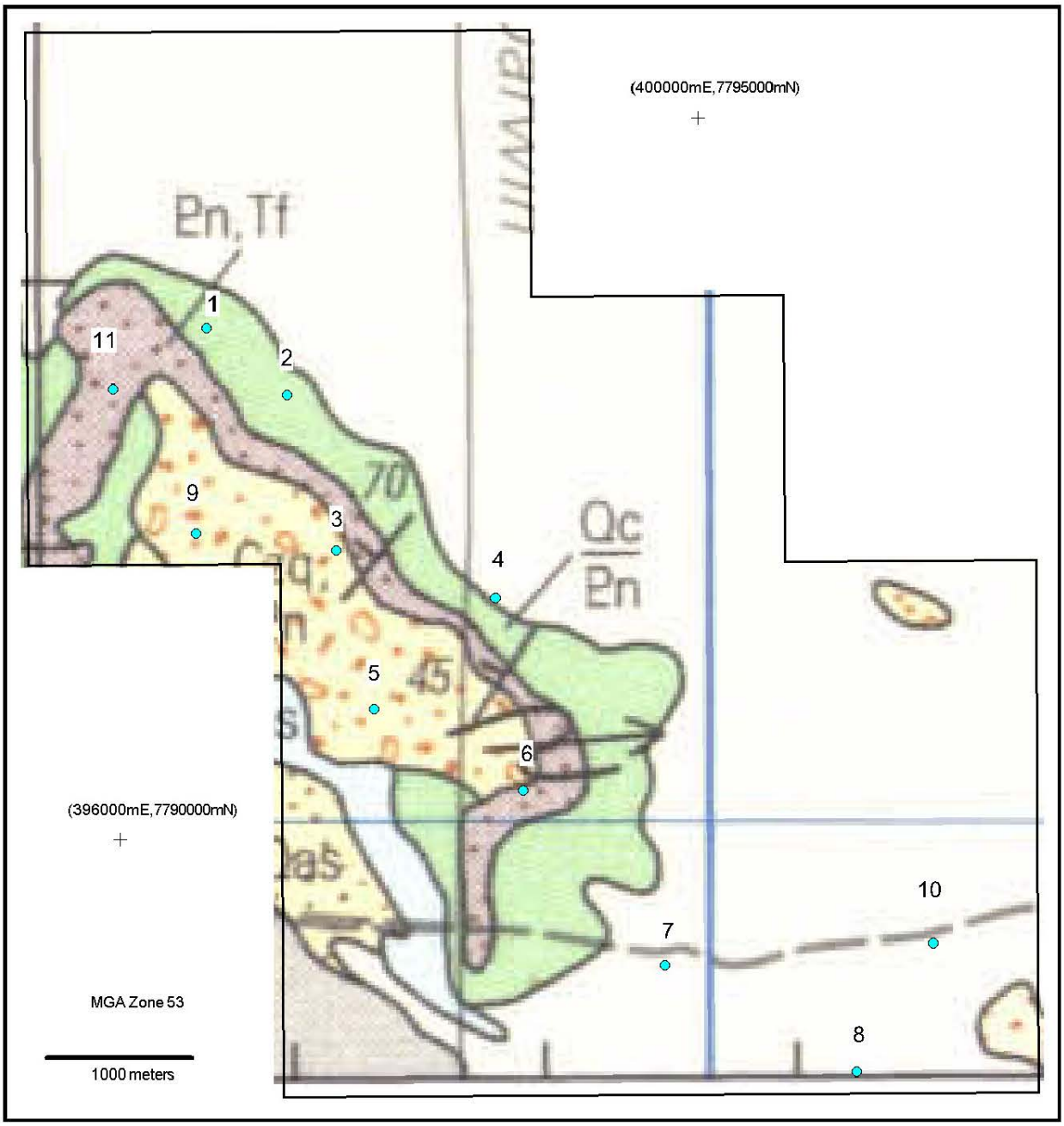
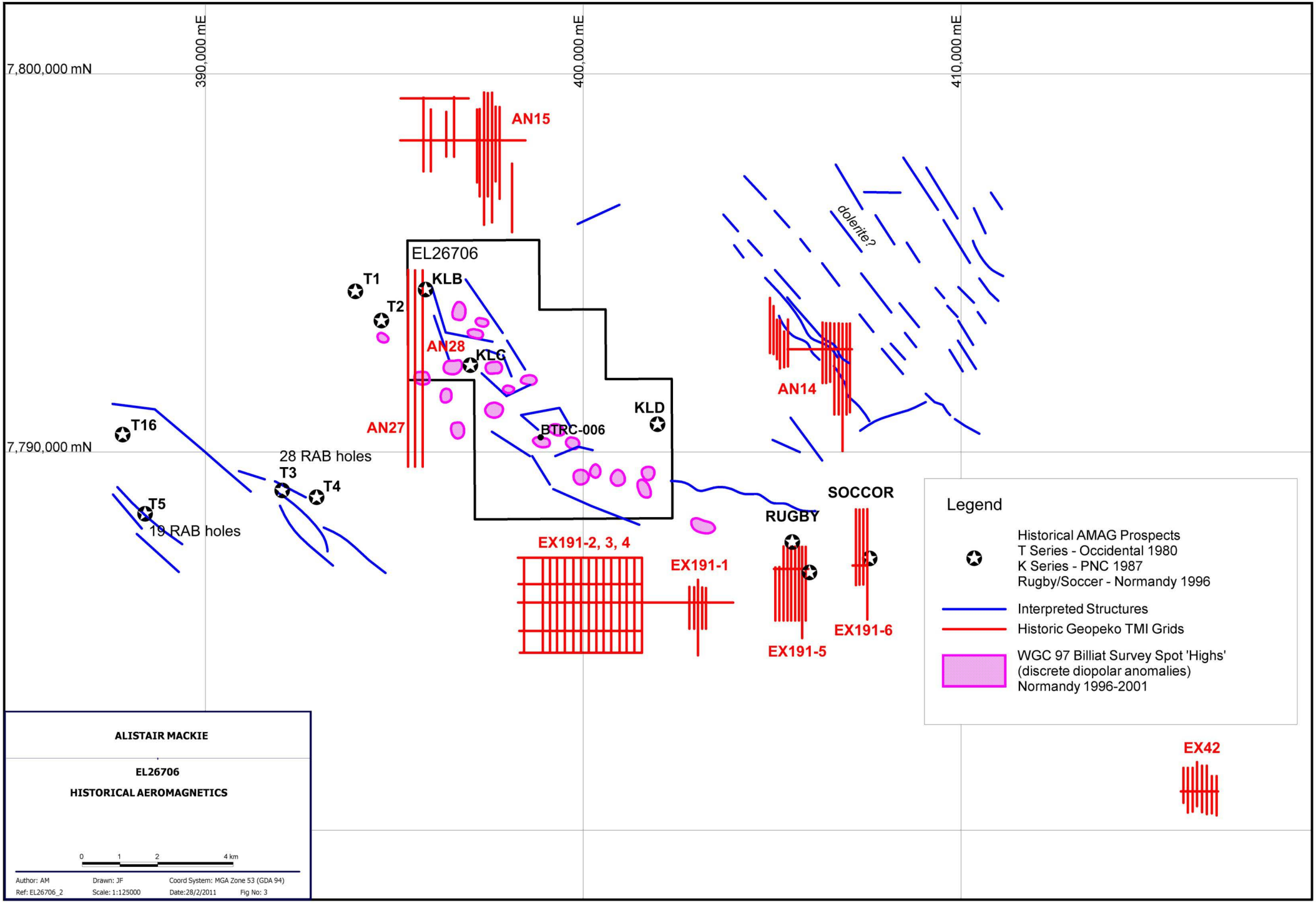


Figure 2. 1:250,000 scale published Geology (Reference Geoscience Australia SE 5134). Targets of interest are annotated.


390,000 mE
400,000 mE
410,000 mE
7,800,000 mN
7,790,000 mN
AN15
EL26706
T1
KLB
T2
AN28
KLG
AN27
KLD
BTRC-006
dolerite?
AN14
T16
28 RAB holes
T3
T4
T5
19 RAB holes
EX191-2, 3, 4
EX191-1
RUGBY
SOCCOR
EX191-5
EX191-6
Legend
Historical AMAG Prospects
T Series - Occidental 1980
K Series - PNC 1987
Rugby/Soccer - Normandy 1996
Interpreted Structures
Historic Geopeko TMI Grids
WGC 97 Billiat Survey Spot 'Highs'
(discrete diopolar anomalies)
Normandy 1996-2001
EX42
ALISTAIR MACKIE
EL26706
HISTORICAL AEROMAGNETICS
0 1 2 4 km
Author: AM
Drawn: JF
Coord System: MGA Zone 53 (GDA 94)
Ref: EL26706_2
Scale: 1:125000
Date:28/2/2011
Fig No: 3