23. WILD POTATO/TANAMI DOWNS NORTH (EL 6835)

23.1 Introduction

The exploration licence 6835 (Wild Potato Bore) is an incorporation of two licence areas, viz EL 2368 and ELA 2371. Respectively the remnant north eastern sector of the Tanami Downs licence is combined with the southern margin and western sector of the Kim's Bore application area. EL 6835 lies within the Tanami Downs pastoral lease. The western sector of Wild Potato was subsequently relinquished in March 1991.

Previous exploration activity undertaken by North Flinders Exploration on the area currently defined by EL 6835 has consisted of the following:

* reconnaissance mapping traverses and aerial photographic interpretation
* interpretation of aeromagnetic data
* a localised RAB derived geochemical program

The aeromagnetic interpretation indicated that a magnetic horizon with characteristics similar to those associated with Dead Bullock Soak mineralisation was apparent within the exploration licence. However, testing this feature would require exploration methods capable of penetrating the extensive alluvial and Antrim Basalt cover. Work undertaken this year was designed to investigate the likely success of such methods.

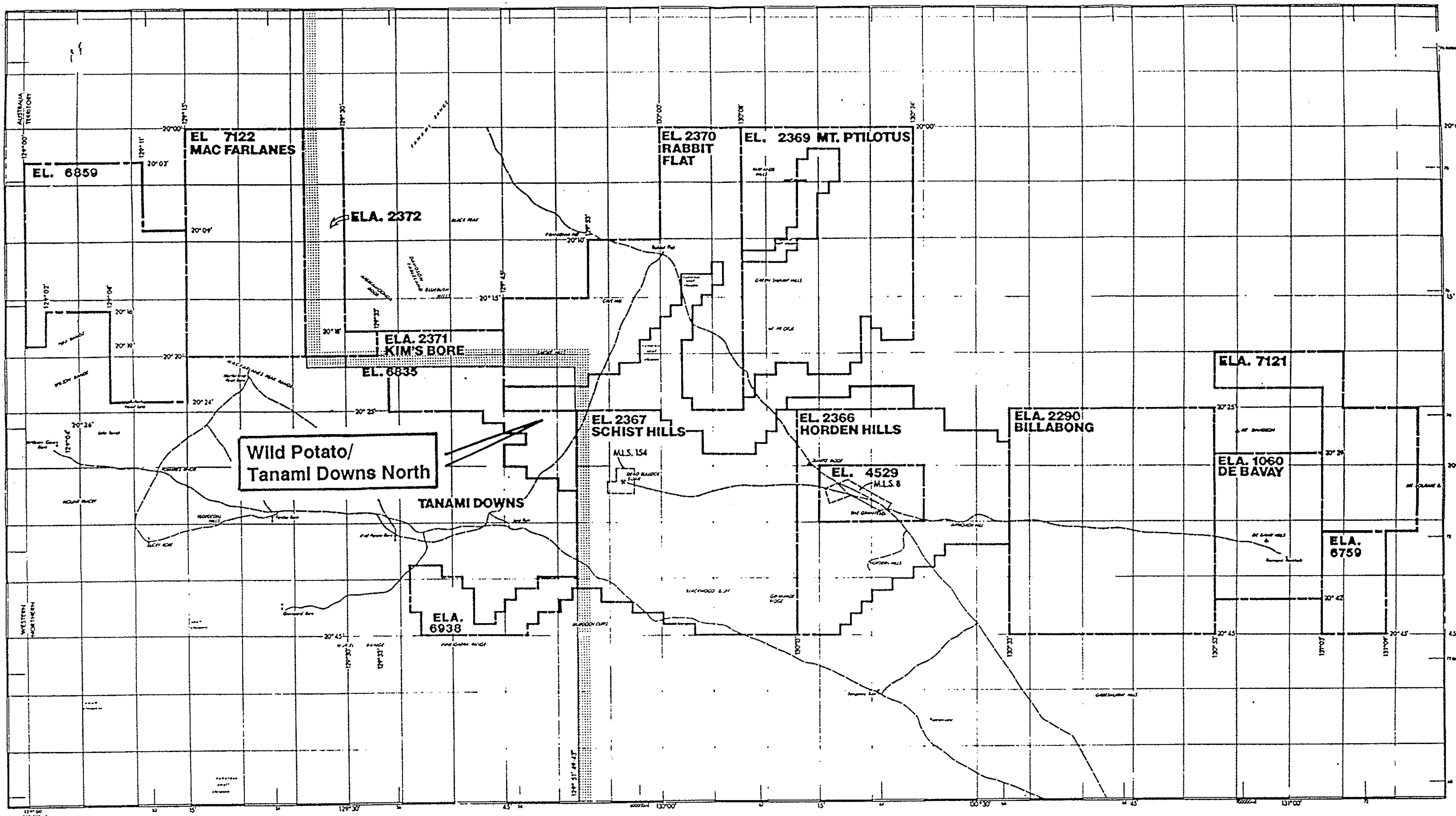
23.2 Work Undertaken

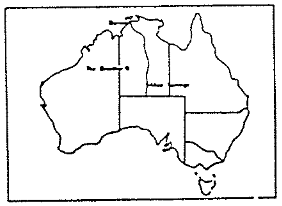
Six traverses of ground magnetics were completed over two areas highlighted by the airborne magnetics. Sixteen line kilometres were tested on grid lines 1200 to 2600 metres apart.

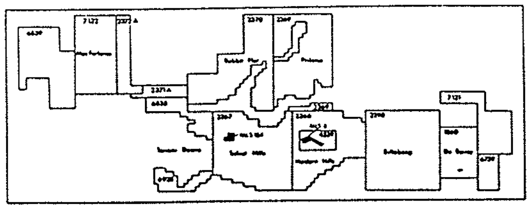
To determine the depth of cover sediments and Antrim Plateau Basalts, 9 vertical RAB holes and one RC hole were drilled on the traverses, close to the site of the buried magnetic horizon.

Traverse	No. of D.H.		Meterage		Magnetics
(local, from W-E	RAB	RC	RAB	RC	(line Km)
TN8	2		75		abnd*
TN7	1		24		-
TN6	2		77		4.0
TN4	1		45		3.5
TN3	1		33		3.5
TN2	1		30		2.5
TN9	1	1	15	71	2.5
TOTAL	**9**	**1**	**299**	**71**	**16.0**

* Magnetic traverses abandoned because of solar flare interference.







LEGEND

NORTH FLINDERS MINES LIMITED

Tanami Reconnaissance : Northern Territory

EL LAYOUT

1:250 000

KILOMETRES

DATA BY		AMENDED	
DRAWN	MARCH '89		Drg. No. 20-

23.3 Results

Magnetic Survey

Only the results from the four traverses over the arcuate eastern airborne magnetic anomaly were interpreted during 1991. A comparison with the pattern of anomalism at Dead Bullock Soak shows some similarities between the prospects, are shown in the table below.

Comparison of Magnetic Modelling Data

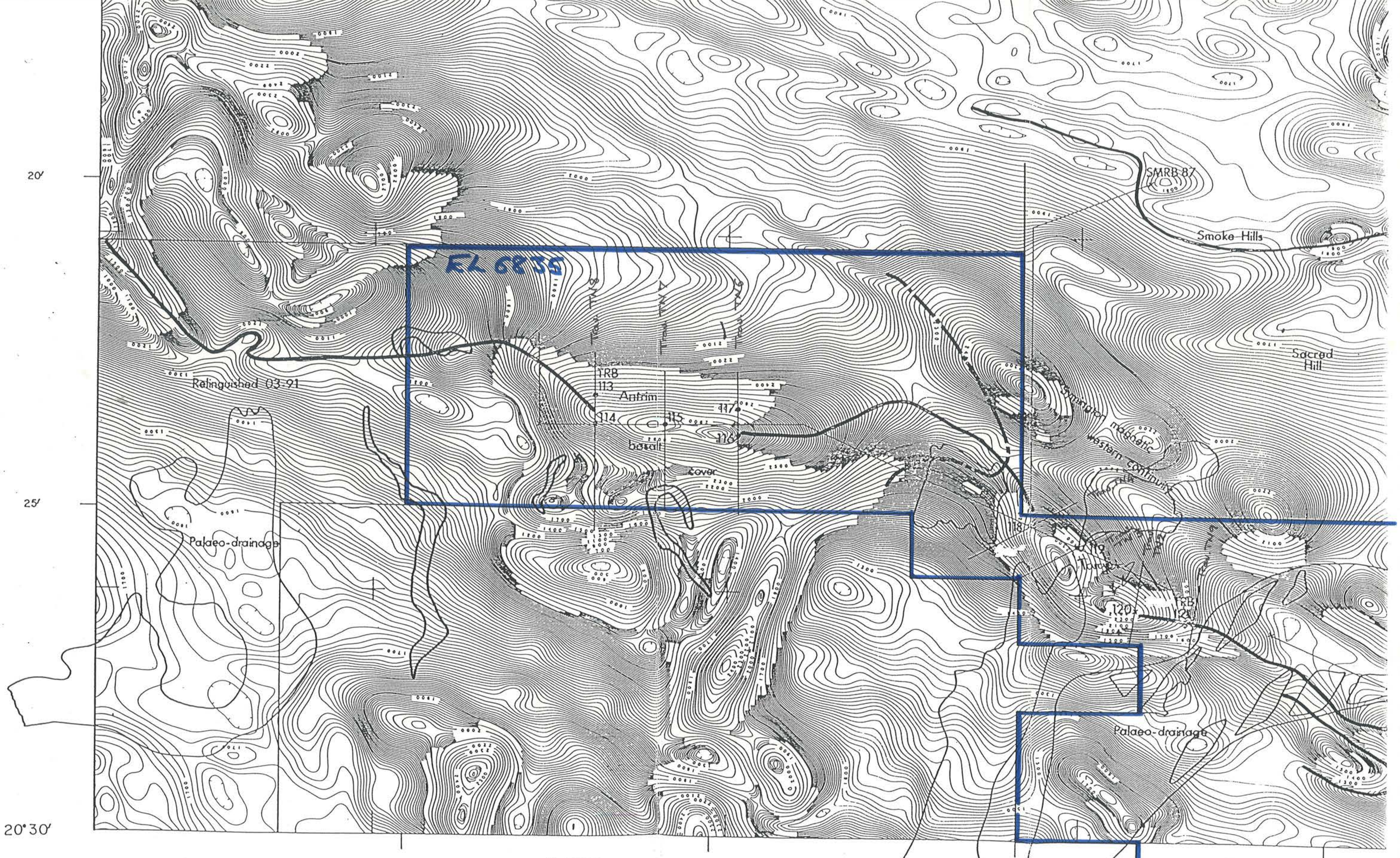
	Tanami Downs North (Eastern magnetic Anomaly)		Dead Bullock Soak Prospect
	Airborne	Ground	Airborne
Amplitude(nT)	14000	15000	1000
Susceptibility (emu)	0.007	0.011	0.007
Mag Source Strike length (km) Depth (m) Width (m) Rock type	 6.0 310 900 ?Volc Pile	 NA 200-250 800 ?Basalt	 6.5 290 1600 ?Basalt
Structure Strike SE Strike NW crosss cutting faults	 110° (ESE) 325° (NNW) 030° (NNE	 untested Downthrown 200-250m	 100°(EES) 315 (NW) 050° (NE)
Anticlinal fold N.Limb S.Limb fold nose plunge	 near vertical (prub. isocline) Shallow SE	 85°/NNE 40°/S NA	 80°/S 55°/S Moderate ESE
Davidson Beds	Not exposed	Beneath 30-70 of alluvium	exposed

RAB and RC Drilling

Drilling has confirmed that the western magnetic anomaly is blanketed by an undetermined thickness of Antrim Plateau basalt. The Eastern Magnetic Anomaly, however, has a capping of upto seventy metres of clay alluvium, representing a relic flood plain sediment from the adjacent palaeoriver. The prospectivity of the areas tested has not been advanced beyond that established by the ground magnetic survey.

23.4 Plans

All plans for this section are presented with the text of the report.



129°30' 560000 35' 570000 40' 45' 580000 50'

LEGEND

• 114 RAB Drillhole

Interpreted eastern limit of antrim volc

Davidson Fm (target horizon)

NORTH FLINDERS EXPLORATION

EL 6835

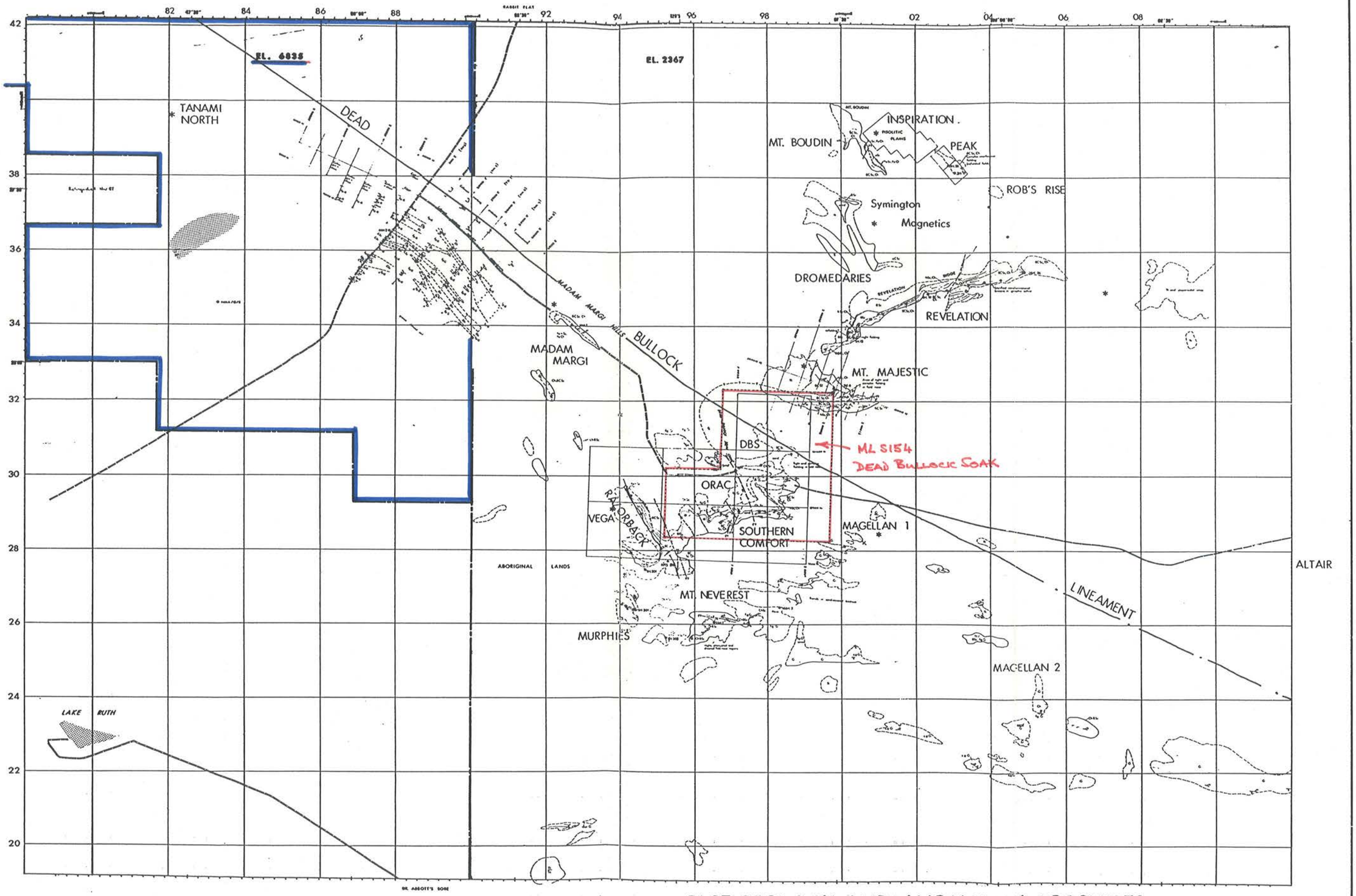
Cover Rocks / Sediments

Scale 1:100 000

E SURVEY SPECIFICATIONS

AREA A (FLOWN FOR THE NTGS)

AREA B (FLOWN FOR NORTH FLINDERS EXPLOR...



MADAM MARGI HILLS AND SCHIST HILLS – FACT GEOLOGY AND ANOMALOUS PROSPECTS

TANAMI NORTH
Location of Ground Magnetometer
Profiles, TN2, TN3, TN4, TN9

1:25,000

9400 N

TRB 121

Aeoline sand
Calcrete nodules

Silty clay c̄
gritty interbeds

T.D. 15m
(hole abnd)

9700 N

TRC 016

Watertable

Aeoline sand

Clay alluvium c̄ occas
gritty bands of Fe pisolites
+ coarse angular qtz sand

Fine (colloidal) clay
alluvium

Interbedded (partly ferrug)
clay alluvium

T.D. 71m
(hole abnd)

NORTH FLINDERS EXPLORATION

TANAMI DOWNS NORTH

Traverse TN 9
13020 E (local)

Jun 91

24. OFFICER HILL (EL 6938)

24.1 Introduction

The Officer Hill prospect lies approximately 80 kilometres south-west of The Granites within EL 6938. Previous exploration by North Flinders has consisted of vacuum, RAB and reverse circulation drilling and rock chip sampling.

The objectives of the exploration program were to carry out RAB drilling to test for additional zones of mineralisation, along strike extensions of the known mineralised zone and confirm the erratic, low grade anomalous nature of the known mineralisation.

Drilling was based ostensibly on a conceptual geological model generated during 1990 based on known outcrop and drill hole geology shown on the accompanying plan. Clearly this is only one possible interpretation of the known geology, but it was considered a valid model for testing of other mineralised locations.

The lack of outcrop in the area to be tested and doubts about the accuracy of the regional geological interpretation resulted in only a modest drilling programme being carried out.

24.2 Work Undertaken

Work completed during the first half year is summarised in the table below.

Summary of Work Carried Out

Grid Extension	6.8 Line Kilometres
RAB Drilling	
-blade	3742 metres
-hammer	235 metres
-total	3977 metres
-holes	227
-samples	1327
Ground Magnetometer Traverses	3.0 line kms

The ground magnetometer traverses were carried out to determine if the mineralisation had any distinctive magnetic signature. Traverses were carried out over the three most anomalously mineralised zones, with readings collected at 10 metre intervals. It was planned to carry out orientation EM traverses along the same lines, but due to operational and reliability problems with the instrument this was not completed. .

RAB holes were drilled to indentifiable bedrock on lines 82300E, 82500E, 82700E and 82900E with samples taken every three metres. Samples were collected through a cyclone, riffle split to approximately 1 kilogram and submitted to Analabs, Adelaide for gold (1ppb detection limit) and arsenic (10ppm detection limit) analyses. Results and bottom of hole geology were plotted on cross-sections and base of hole geology on the fact geology plans.

24.3 Results

Ground Magnetics
The ground magnetometer traverses indicated that no characteristic magnetic signature was present over the mineralised zone on any traverse. The zone occurs in a magnetic 'low' on the flank of a regional magnetic high over the magnetite bearing Blake Beds sediments.

RAB Drilling
Results obtained from the RAB drilling were generally of a low tenor with only patchy development of low level gold-arsenic anomalous zones. Peak assay results were 0.38ppm gold and 2890ppm arsenic (coincident sample ORB-526) although values were typically less than 100 ppm arsenic and 20ppb gold.

EL 7122
MAC FARLANES

EL. 6859

ELA. 2372

EL. 2370
RABBIT
FLAT

EL. 2369 MT. PTILOTUS

ELA. 2371
KIM'S BORE

EL. 6835

EL. 2367
SCHIST HILLS

EL. 2366
HORDEN HILLS

ELA. 2290
BILLABONG

ELA. 7121

ELA. 1060
DE BAVAY

ELA.
6759

EL. 4529

M.L.S. 154

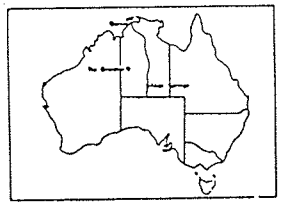
M.L.S. 8

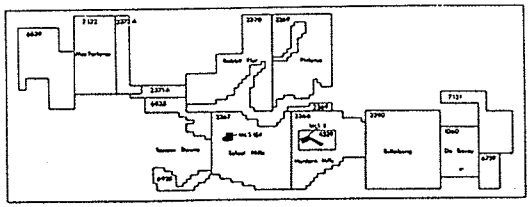
TANAMI DOWNS

ELA.
6938

Officer Hill

LOCATION MAP





LEGEND

NORTH FLINDERS MINES
LIMITED

Tanami Reconnaissance : Northern Territor

EL LAYOUT

1:250 000

KILOMETRES

DATA BY

DRAWN

MARCH '89

AMENDED

Drg. No. 20-

Lithologies encountered in the drilling were largely as expected based on the results of previous RAB and RC drilling. The predominant rock type consisted of fine grained pelitic (chlorite-sericite ± quartz ± feldspar ± magnetite) schists that are considered on the basis of composition and inferred stratigraphic setting to be part of the Blake Beds. Other lithologies encountered consisted of fine to medium grained mafic lithologies (basalt-dolerite) inferred to be probable Tanami Volcanics as well as minor chert, iron formation and graphitic schist typical of the Davidson Beds.

Drilling was carried out on lines 82300E,82500E,82700E and 82900E to test the mineralised potential of the Davidson Beds sequence in the area. Typical Davidson Beds lithologies were intersected although the sequence appears quite thin, certainly much thinner than the main Officer Hill ridge and the low ridges probably represent the approximate thickness and distribution of the unit.

The distribution of Davidson Beds in this area implies that locally and perhaps regionally they may be lensoid in distribution and show considerable thickness variation where they are developed. Whether this is a primary depositional feature or related to boundinaging during the inferred regional shearing D1 event is uncertain. In this area there is also evidence for an intercalated relationship between the pelitic sediments of the Blake Beds and the mafic lithologies of inferred Tanami Volcanics. Minor probable Madigan Beds were intersected towards the north of line 82500E and 82700E and probable cover sequence sediments (mid-upper Proterozoic?) were intersected at the northern extension of lines 82300E and 82500E.

The Davidson Beds sequence proved unmineralised with only low level weakly anomalous gold and arsenic results being returned.

Drilling on lines 79200E and 79600E was carried out to locate possible extensions of the mineralised zone on 80000E and test the possibility of fold closure, or fold axis related mineralisation in this area. No anomalously mineralised zones or indications of mineralisation were located. Lithologies encountered consisted of pelitic sediments (variably magnetic) of probable Blake Beds, and on the southern end of each line mafic dolerite and basalt of the Tanami Volcanics.

Drilling on line 80300E was carried out to test for possible easterly extensions of the mineralised zone encountered on 80000E. Again no anomalous results were obtained, with Blake Beds and minor Tanami Volcanics and Davidson Beds being encountered in drill holes.

The disappointing results from each 'target' serves to downgrade considerably the potential of the mineralised area to the north of Officer Hill although clearly mineralising processes capable of producing potentially economic grades of mineralisation have operated in the area.

24.4 Plans

Drawing No	Title	Scale
200-1245	RAB Cross Section Geol & Assay 82300E	1:500
200-1246	RAB Cross Section Geol & Assay 82500E	1:500
200-1247	RAB Cross Section Geol & Assay 82700E	1:500
200-1248	RAB Cross Section Geol & Assay 82900E	1:500
200-1249	RAB Cross Section Geol & Assay 79200E	1:500
200-1250	RAB Cross Section Geol & Assay 79600E	1:500
200-1251	RAB Cross Section Geol & Assay 80300E	1:500
200-687	Fact Geology Sheet 2	1:2500
200-688	Fact Geology Sheet 3	1:2500
200-689	Fact Geology Sheet 6	1:2500
200-690	Fact Geology Sheet 7	1:2500
200-1265	Fact Geology Sheet 8	1:2500