

12. OLD PIRATE (EL 6859)

12.1 Introduction

The Old Pirate prospect is located approximately 130 km west-north-west of The Granites within EL 6859. Access to the area is via the Dead Bullock Soak camp, the Tanami Downs homestead, then station tracks north-west to the prospect. Alternatively there are tracks leading south to the exploration licence from the Tanami Highway. Old Pirate lies approximately 3km south of the Twin Bonanza prospect.

Previous work in the area has included:-

- Reconnaissance mapping at 1:25,000
- Aeromagnetic interpretation presented at 1:25,000
- Surface lag sampling on a 1.8 x 0.5km grid

The Old Pirate prospect occurs within a large arsenic anomaly with a 20km strike length outlined by the surface lag sampling program.

12.2 Work Undertaken

A summary of work undertaken is give below:-

- Local Grid Surveying - 174.5 line km
- Ground Magnetic Survey - 55.0 line km
- Vacuum Drilling - 1108 holes (OPV001-1108) for a total of 5483m
- 1108 Colluvium and 1108 bottom of hole samples collected.-
- RAB Drilling - 155 holes (OPRB001-155) for a total of 2930m and 240 samples
collected
- Petrology - 11 samples

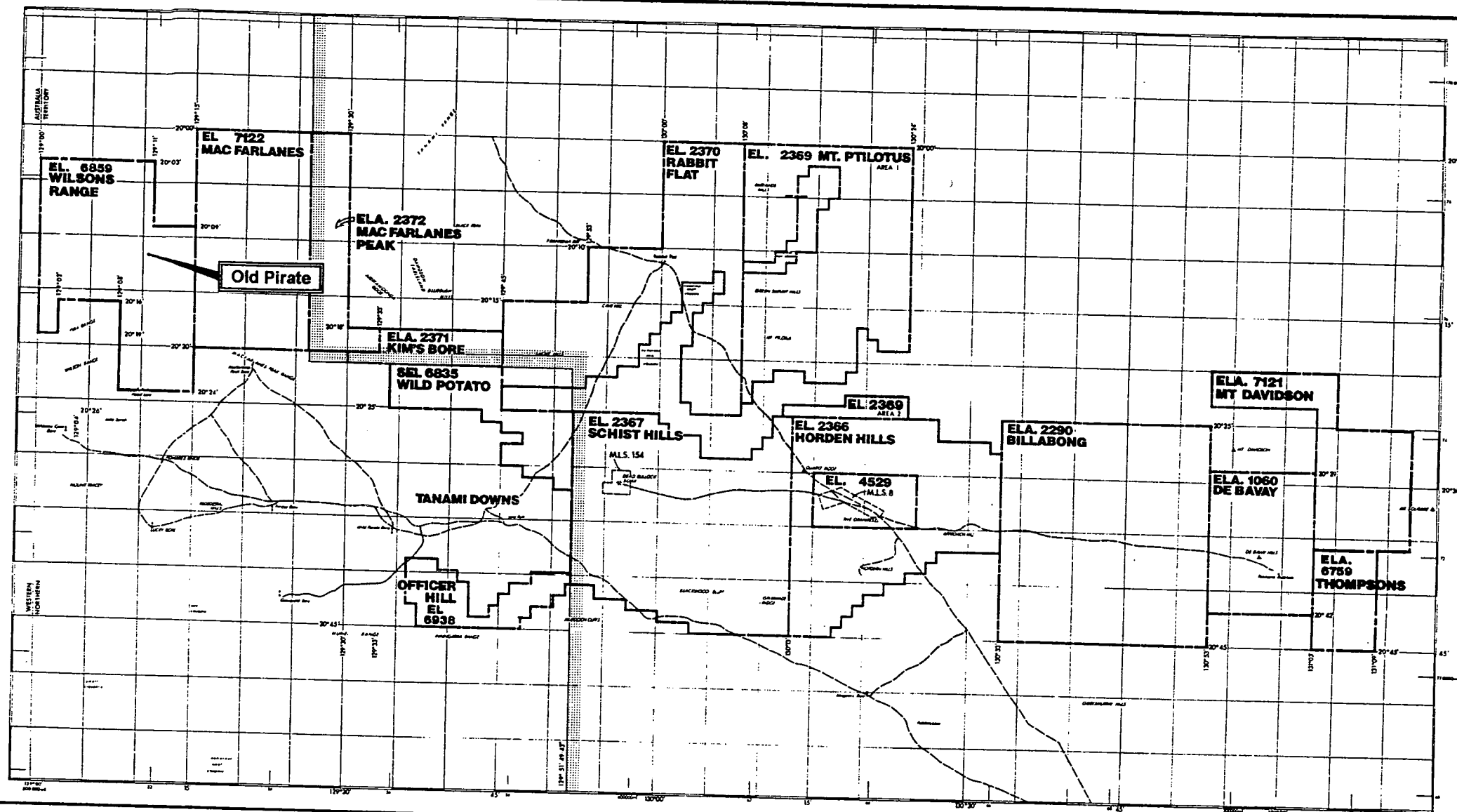
Survey - Old Pirate Local Grid

A total of 174.5 line kilometres of grid traverses spaced 400 metres apart was completed over the Old Pirate prospect as two north-orientated adjoining blocks. The southern sector has a twelve kilometre base line, with the northern sector being a grid extension to the north and north-west of the existing grid. An additional 8.5 kilometres of base line north-west of the southern base line was established.

Grid origins have been subsequently located with a differential Global Positioning System method providing an accuracy of plus/minus 10mm. The cross traverse grid lines, however, were marked out with a hip chain and optical square.

Ground Magnetics

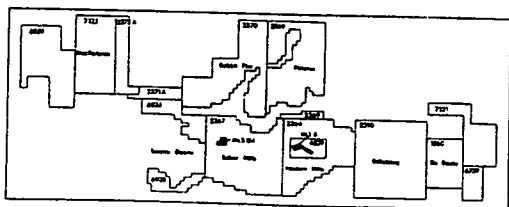
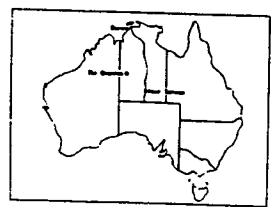
A total of 55 line kilometres of ground magnetics (with the station spacing of ten metres) was completed. Most of this work was devoted to the northern areas of the Old Pirate grid where the better gold anomalies existed. Selected grid lines over the southern half of the grid were included to assist with the modelling of the strike extensive magnetic feature.



Old Pirate

TANAMI DOWNS

LOCATION MAP



LEGEND

- █ EL
- █ ELA
- █ M.L.S.
- █ Boundary
- █ Road
- █ Railway
- █ Watercourse
- █ Contour
- █ Spot Height
- █ Windmill
- █ Windmill Footing
- █ Windmill Foundation
- █ Windmill Tail
- █ Windmill Wall
- █ Windmill Base
- █ Windmill Roof
- █ Windmill Chimney
- █ Windmill Mast
- █ Windmill Cap
- █ Windmill Hub
- █ Windmill Blade
- █ Windmill Vane
- █ Windmill Yoke
- █ Windmill Gears
- █ Windmill Bearings
- █ Windmill Bolts
- █ Windmill Nuts
- █ Windmill Washers
- █ Windmill Spacers
- █ Windmill Seals
- █ Windmill Grease
- █ Windmill Oil
- █ Windmill Lubricant
- █ Windmill Fuel
- █ Windmill Water
- █ Windmill Electricity
- █ Windmill Gas
- █ Windmill Air
- █ Windmill Sound
- █ Windmill Vibration
- █ Windmill Temperature
- █ Windmill Humidity
- █ Windmill Pressure
- █ Windmill Wind
- █ Windmill Rain
- █ Windmill Snow
- █ Windmill Ice
- █ Windmill Fog
- █ Windmill Clouds
- █ Windmill Sun
- █ Windmill Moon
- █ Windmill Stars
- █ Windmill Planets
- █ Windmill Galaxies
- █ Windmill Universe

NFM NORTH FLINDERS MINES LIMITED

 Tanami Reconnaissance : Northern Territory.

EL LAYOUT

1:250 000

KILOMETRES
0 1 2 3 4

DATE BY	AMENDED A	REVISED J
04/10/00	MARCH '01	C [A] [E] [C] [G] [J] [M] [W]
		D [I] [L] [O] [C]

Fig. 12.1

The program successfully indicated the depth and likely rock type of the magnetic source, although many profiles were marked with surface "noise" effects. All profiles were smoothed using a thirteen point moving average filter, which shifted the interpreted boundaries of the magnetic source.

Vacuum Drilling

An extensive vacuum assisted bedrock geochemical program with a sampling density of 400m x 100m, resulting in 1108 holes was completed (OPV001 to OPV1108). Total meterage drilled was 5483m.

Two samples were collected from each drillhole, one being a colluvium sample (+1mm-5mm) from the lateritic residuum below surface aeolian sand and the other, a bedrock sample taken below the clay horizon. This sampling method ensured that material from the chemically least depleted horizon was collected.

Colluvium Sample

A -5mm + 1mm sieved fraction was collected from either the ferruginous clastic horizon or the lateritic pisolite horizon, depending on occurrence.

The samples were analysed by Analabs for a range of elements as described below.

Analysis Of Vacuum Colluvium Samples - Elements And Analytical Methods - Analabs

Element	Au	Se	As	Zn	Sb	Cu	Mo	Pb	Bi	Co
Detection Limit	0.001	0.1	5	0.5	3	0.5	1	0.5	1	0.5
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Analytical method	GG334	HA117	GA115	GA115	GA115	GA115	GA115	GA115	GA115	GA115

GG334 - 30g Aqua regia digestion with carbon rod finish

HA117 - Aqua regia, hydride generation, AAS determination

GA115 - 30g Aqua regia, AAS

Cumulation frequency analysis was completed for all elements - refer Appendices.

Bedrock Sample

This sample type was collected from the first intersection of weathered bedrock below the saprolitic clay horizon.

The samples were analysed by Analabs for gold and arsenic only.

Analysis of Vacuum Bedrock Samples - Elements and Analytical Methods - Analabs

Element	Au	As	Analytical Method
Detection Limit	0.001	5	GG334 - 30g Aqua regia with carbon rod finish GA115 - 30g Aqua regia, AAS
Units	ppm	ppm	
Analytical Method	GG334	GA115	

RAB Drilling

RAB drilling was undertaken on the Old Pirate gird where there was moderate depth alluvial cover or a shallow water table. The drillhole density was eased to 800m x 100m.

Usually, a minimum of one, three metre bedrock sample was collected. Additional three metre samples were collected depending on the geology intersected.

A total of 155 holes (OPRB001-155) were drilled for 2930 metres and 240 samples.

Samples were analysed by Analabs for gold, arsenic and antimony.

Analysis Of RAB Samples Old Pirate - Elements And Analytical Methods

Element	Au	As	Sb
Detection Limit	0.001	5	0.05
Units	ppm	ppm	ppm
Analytical Method	GG334	GA115	GS201

GG334 - 30g Aqua regia with carbon rod finish

GA115 - 30g Aqua regia, AAS

GS201 - 0.2g Aqua regia/perchloric acid/hydrofluoric acids, ICPMS

Petrology

Eleven RAB drill chip samples were petrographically described by Pontifex and Associates.

(Refer Mineralogical Report No. 6485 by A.C. Purvis).

12.3 Results

Ground Magnetic Survey

Many of the ground magnetic profiles over the northern part of the Old Pirate prospect were very noisy due to laterite and alluvium cover. Modelling was completed on all profiles where noise was not too great.

The source of the magnetic bodies at Old Pirate is interpreted as a series of intrusives (possibly dolerite?) or a sequence of tightly folded magnetic schists. The closest the magnetic bodies approach the surface is on lines 62000N and 60400N where the top of the body is interpreted at 80 metres depth.

A report which includes ground magnetic survey results for Old Pirate and Twin Bonanza is included in the appendices. A plan showing an interpretation of the ground magnetic survey superimposed on the contoured airborne magnetic map is also presented for both prospects.

Vacuum Drilling - Colluvium Sampling

Initial interpretation of the colluvium multielement contour plots suggest that gold and arsenic remain the most useful elements for target identification.

Contouring of the gold data, (with the contour intervals derived from the cumulative frequency plots) defined a gold anomalous zone (of values greater than 20ppb) with a length of approximately two and a half kilometres and a maximum width of 800m to almost 1000 metres. The anomaly is coincident with an arsenic anomaly (threshold 160ppm As).

The table below summarises anomalous gold results (threshold 20ppb) from vacuum drilled colluvium sampling.

There is a moderate geochemical coincidence between anomalous gold/arsenic, cobalt and lead. The significance of this correlation requires investigation as a large coincident cobalt-lead anomaly is on the periphery of an unsampled alluvially covered area in the central portion of the grid. Bedrock sampling is required to complete this survey coverage at the Old Pirate prospect.

Summary Of Anomalous Gold (>20ppb) From Vacuum Assisted Colluvium (-5mm +1mm) Results - Old Pirate Prospect

VACUUM HOLE NO. PREFIX OPV	GOLD (ppb)	ARSENIC (ppm)
138	27	80
154	460 *	130
182	170 *	110
243	40	105
245	20	115
273	32	60
277	650 *	120
279	43	40
282	95 *	320
373	540 *	110
374	27	230
410	46	515

* Significant Result

Comparison Of Reconnaissance Lag With Vacuum Drilled Colluvium Sampling - Old Pirate

A figure is enclosed which compares the reconnaissance lag results with the follow-up colluvium assays for gold and arsenic.

A review of the follow-up vacuum derived colluvium (-5mm + 1mm) data with the reconnaissance lag data highlights a number of points applicable to future reconnaissance programs and the interpretation of existing data.

- spot gold anomalies above detection should be regarded as significant. The Old Pirate prospect was highlighted by two reconnaissance lag gold results of 6ppb and 3ppb.
- Reconnaissance lag sampling is a suitable reconnaissance exploration tool at the density of 1.8km x 500 metres.
- Arsenic is quite a mobile element in surficial lateritic derived lag material.

Vacuum Drilled Bedrock Geochemical Data

Only a preliminary interpretation of the assay results was completed prior to reporting. Contouring of the gold values, using the threshold 5ppb, outlines a continuous anomaly of 2.8 kilometres strike with a maximum width of 400 metres. The best gold value was 2.5 g/t Au. The verification RAB drill hole sited beside this peak value returned 3m @ 1.35 g/t Au.

The inference from the descriptions of the drill cuttings and the distribution of the bedrock gold anomalies is that mineralisation appears to be associated with quartz veins proximal to:

- the hinge zone of a south plunging anticline, and
- the contact zone between the metasediments of the Killi Killi Beds and a quartz microgranite.

Summary Of Anomalous Gold (>20ppb) From Vacuum Assisted Bedrock Geochemical Program

VACUUM HOLE NO. PREFIX OPV	GOLD (ppb)	ARSENIC (ppm)
016	300*	755
184	45	50
187	53*	75
232	20	15
242	23	135
243	51*	30
252	30	20
282	2570*	225

* Significant Result

RAB Drilling

RAB drilling at the northern alluvially covered sector of Old Pirate was employed to complete the bedrock sampling program at the density of 800m x 100m where suitable sampling had not been achieved by vacuum drilling.

The table below shows anomalous gold values from this bedrock sampling. A plan showing bedrock geochemical anomalies and bottom of hole lithologies is also presented (for Old Pirate and Twin Bonanza Prospects).

Summary of Anomalous Gold (>20ppb) from RAB Assisted Bedrock Geochemical Program Over Old Pirate Prospect

RAB HOLE NO.	GOLD (ppb)	ARSENIC (ppm)
OPRB003	460 *	5
065	31	40
097	44	35
099	49	20
106	26	20
** 143	1350 *	115
	26	405
	110 *	1465

* Significant Result

** Note this hole is an angle hole undercutting a vacuum hole with a bottom of hole assay of 2.57ppm.

12.4 Plans

Drawing No.	Title	Scale	Date
7A	Old Pirate Colluvium Survey - Gold	1:25,000	Feb 94
7B	Old Pirate Colluvium Survey - Arsenic	1:25,000	Feb 94
7C	Old Pirate Colluvium Survey - Cobalt	1:25,000	Feb 94
7D	Old Pirate Colluvium Survey - Lead	1:25,000	Feb 94
7E	Old Pirate Colluvium Survey - Zinc	1:25,000	Feb 94
7F	Old Pirate Colluvium Survey - Copper	1:25,000	Feb 94
7G	Old Pirate Colluvium Survey - Antimony	1:25,000	Feb 94
7H	Old Pirate Colluvium Survey - Selenium	1:25,000	Feb 94
7I	Old Pirate Colluvium Survey - Molybdenum	1:25,000	Feb 94
7J	Old Pirate Colluvium Survey - Bismuth	1:25,000	Feb 94
F001	Locality Plan Sht1, Work Completed 1993	1:100,000	Feb 94
-	Wilson Range Gold Bedrock Geochemistry / Geology	1:25,000	Dec 93

APPENDIX 1

PETROLOGICAL DESCRIPTIONS - REPORT NO 6434, 6485 AND 6509

- See Previous Section (Twin Bonanza - EL 6859)

APPENDIX 2

INTERPRETATION OF GROUND MAGNETICS SURVEY

AT TWIN BONANZA AND OLD PIRATE (EL 6859)

- See Previous Section (Twin Bonanza - EL 6859)

APPENDIX 3

STATISTICAL PLOTS OF COLLUVIUM GEOCHEMISTRY

AT OLD PIRATE (EL 6859)

