Normandy NFM Limited

NORTH FLINDERS EXPLORATION

annual report

SECOND ANNUAL REPORT FOR THE MT FREDERICK PROJECT FOR THE CALENDAR YEAR 2000

Exploration Licences covered by this report:-

EL 8301	**Alpha**
EL 8796	**Beta**
EL 8797	**Gamma**
EL 8976	**Delta**
EL 8977	**Epsilon**
EL 8804	**Pointer**
EL 9015	**Solo**
EL 8899	**Frederick**

1:250,000 SHEET REFERENCE:	TANAMI	SF52-15
1:100,000 SHEET REFERENCE:	PARGEE	4758

DISTRIBUTION:

- ❑ NT DEPARTMENT OF MINES AND ENERGY
- ❑ NORMANDY NFM LIMITED

DM POWER

FEBRUARY 2001

Normandy RN: CR27959

SUMMARY

The Mt Frederick Project, located in the Tanami desert region approximately 150km northwest of the Granites Gold Mine, currently comprises 8 exploration licences. EL's 8804, 8899 & 9015 were granted on the 29th April 1999, while EL's 8301, 8796, 8797, 8976 & 8977 were granted on the 9th September 1999. During 1999, Normandy NFM negotiated an agreement with the NT DME to provide technical reports on the Project Area for an entire field season rather than anniversary year. A submission date of the 28th February each year was established. This is the second annual report for the Mt Frederick Project covering the period to 31/12/2000.

During 1999, exploration comprised surface work over areas of outcrop/subcrop as well as regolith assessment drilling.

Exploration activity during the current reporting period has incorporated:

- Lag Sampling 211 samples
- Rock Chip Sampling 13 samples
- Soil Sampling 437 samples
- DSL Sampling: 278 samples
- Water sampling 1 sample
- Aircore Drilling: 187 holes for 9034m, 3004 samples
- Water Bore Drilling 1 hole for 31m, 1 sample
- Vacuum Drilling 327 holes for 2964.6m, 489 samples
- Gridding 28.1 line kms
- Ground Magnetics 18.6 line kms
- Petrology 19 samples

It is proposed that future work will involve the evaluation of prospect areas using surface sampling and/or aircore drilling. Vacuum and aircore drilling will be utilised to empirically evaluate areas of deeper cover. Conceptual targets may also be tested.

TABLE OF CONTENTS

Page Number

LIST OF FIGURES

LIST OF TABLES

LIST OF APPENDICES

1. INTRODUCTION

This report covers the Mt Frederick Project for the period ending 31/12/00.

The Mt Frederick Project area is located north of the Tanami Road, approximately 150km north west of the Granites Gold Mine. Access to the Tenements can be gained via the Old Tanami Road or from a seismic line that runs north of the Tanami Road toward the Pargee Range. Exploration Licences 8804, 8899 & 9015 were granted to Normandy NFM on 29th April 1999 for a period of six years. Exploration Licences 8301, 8796, 8797, 8976 & 8977 were granted on 9th September 1999.

Table 1 outlines Tenement details.

Table 1: Mt Frederick Project Tenement Summary

EL Number	Name	Blocks	Km²	Grant Date	Expiry Date
EL 8301	Alpha	70	225	09/09/1999	08/09/05
EL 8796	Beta	17	55	09/09/1999	08/09/05
EL 8797	Gamma	3	10	09/09/1999	08/09/05
EL 8976	Delta	8	26	09/09/1999	08/09/05
EL 8977	Epsilon	1	3	09/09/1999	08/09/05
EL 8804	Pointer	3	9	29/04/1999	28/04/05
EL 9015	Solo	1	3	29/04/1999	28/04/05
EL 8899	Frederick	93	299	29/04/1999	28/04/05
		196	**630**		

1.1 LOCATION, ACCESS AND PHYSIOGRAPHY

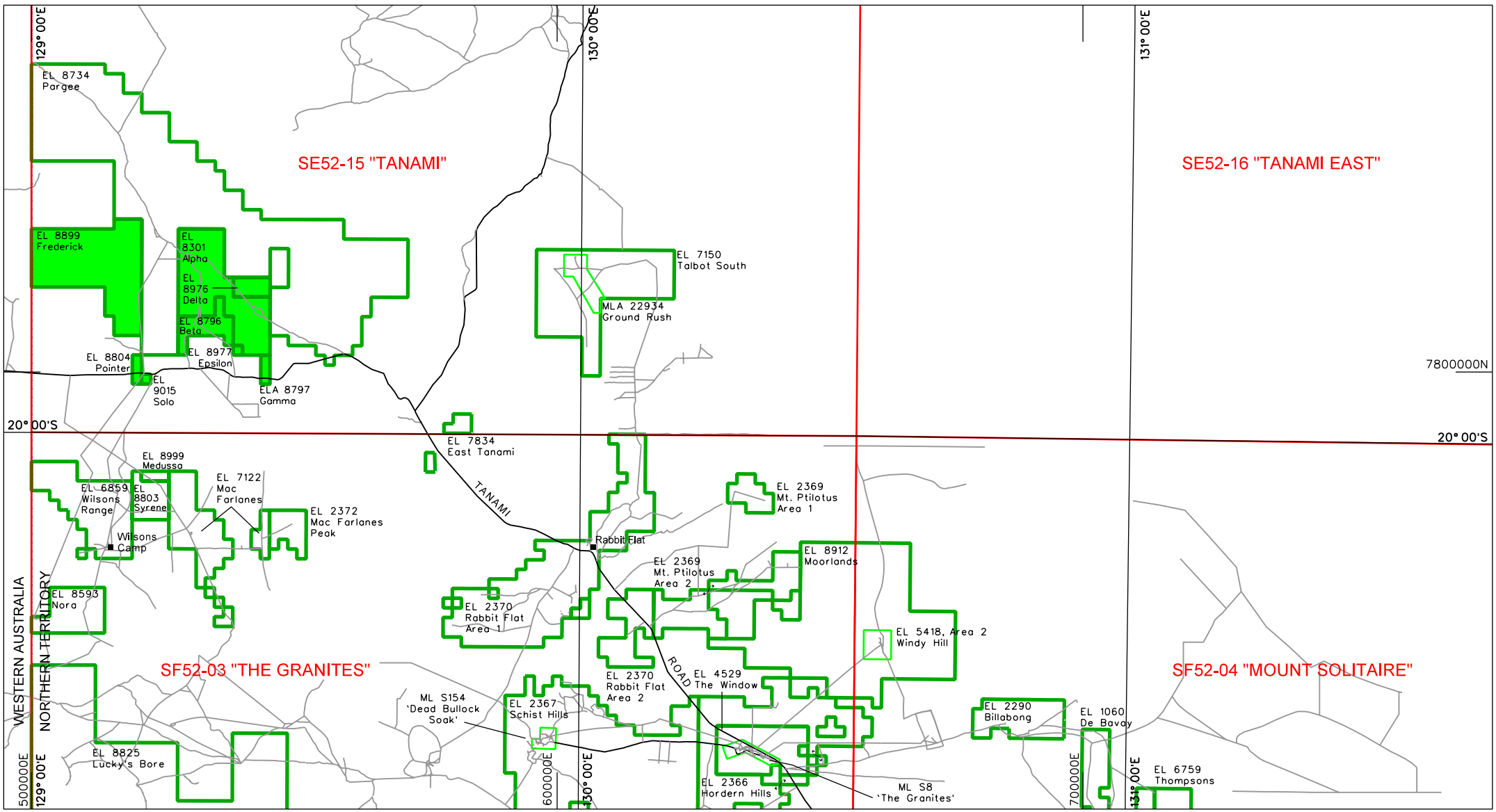
The Mt Frederick Project is located in the Tanami Desert region, approximately 150km NW of the Granites Gold Mine. The area is covered by the Tanami (SF52-15), 1:250 000 series map sheet, as shown on Figure 1.

Access to the Tenements can be gained via the Old Tanami Road or from a seismic line that runs north of the Tanami Road toward the Pargee Range.

Approximately 80% of the project area is dominated by various thicknesses of alluvial cover, the depth of which is greatest within either of two palaeodrainage channels transecting the Alpha and Frederick EL's. Ground water calcrete/silcrete is developed extensively on the margins of these channels. Limited areas of subcrop/outcrop are generally characterised by low, undulating rises. Prominent features include the NS-trending cherty ridges in the central region, the Pargee and Gardiner Ranges to the north of the Project Area and the Killi Killi Hills to the west of the Project area.

Vegetation mainly consists of spinifex with scattered low trees (mostly species of eucalyptus and acacia), shrubs and herbaceous plants, but is generally sparse due to the arid climate and predominantly sandy soils. Few trees are taller than 8m with relatively large trees present only along creeks.

There are no permanent watercourses in the region, however water apparently persists at the Pargee Rockhole and in some creeks for at least a few months following seasonal rains.


129° 00'E
130° 00'E
131° 00'E
SE52-15 "TANAMI"
SE52-16 "TANAMI EAST"
SF52-03 "THE GRANITES"
SF52-04 "MOUNT SOLITAIRE"
EL 8734 Pargee
EL 8899 Frederick
EL 8301 Alpha
EL 8976 Delta
EL 8796 Beta
EL 8977 Epsilon
EL 8804 Pointer
EL 9015 Solo
ELA 8797 Gamma
EL 7150 Talbot South
MLA 22934 Ground Rush
7800000N
20° 00'S
EL 7834 East Tanami
TANAMI
EL 8999 Medussa
EL 6859 Wilsons Range
EL 8803 Syrene
EL 7122 Mac Farlanes
EL 2372 Mac Farlanes Peak
Wilsons Camp
EL 8593 Nora
EL 8825 Lucky's Bore
WESTERN AUSTRALIA
NORTHERN TERRITORY
500000E
Rabbit Flat
EL 2369 Mt. Ptilotus Area 1
EL 2369 Mt. Ptilotus Area 2
EL 8912 Moorlands
EL 2370 Rabbit Flat Area 1
EL 5418, Area 2 Windy Hill
EL 2370 Rabbit Flat Area 2
EL 4529 The Window
ROAD
ML S154 'Dead Bullock Soak'
EL 2367 Schist Hills
EL 2366 Hordern Hills
ML S8 'The Granites'
600000E
EL 2290 Billabong
EL 1060 De Bavay
700000E
EL 6759 Thompsons
N
W
E
S
0
50km
SCALE 1:1,000,000
UTM Zone 52 (AGD66)
Normandy NFM Limited
NORTH FLINDERS EXPLORATION
MT FREDERICK PROJECT
TENEMENT LOCATION MAP
30/03/2001
Tanami Location
DARWIN
NORTHERN TERRITORY
Western Australia
Queensland
Tennant Creek
ALICE SPRINGS
South Australia
FIGURE 1
..\mtfal001.dgn

1.2 HISTORICAL EXPLORATION

Limited exploration has been undertaken within the region presently occupied by the Mt Frederick Project Area. Power and Nuclear Corporation (PNC Exploration Australia) began exploring the district for uranium in 1986. They generated anomalies at outcrop sites referred to as Areas 20, 21a & 21b. Surface mapping and rock chip sampling was conducted at each site with gold anomalism up to 26 ppb reported at Areas 20 and 21b. Lag sampling at Area 21a generated a cohesive Cu-As anomaly (size and tenor unknown). RAB and DDH drilling and surface geophysical surveys were conducted at Area 20 following the discovery of a thin (0.5m to 2m) occurrence of metatorbenite and saleeite mineralisation. Very few samples were collected from these programs and even less were assayed for gold.

In April 1989 a joint venture was formed between PNC and WMC (Western Desert Joint Venture) at which time WMC began exploring primarily for gold. PNC ceased uranium exploration in the region in 1990. WMC's exploration approach involved lag sampling (-6+2mm fraction) over areas of outcrop/subcrop. Arsenic anomalism (>100ppm) was reported at Areas 21a & 21b with sample densities of 400x40m. A low order gold anomaly (max 42ppb Au) was generated at 800x100m and 200x50m lag sample spacings. This anomaly was named Coomarie Extended.

Interest was first raised in the *Killi Killi Hills* area during 1960 with the discovery of radioactive material by New Consolidated Goldfields. Two prospects were identified; Killi Killi and Watts rise, 11km to the northwest.

At Killi Killi, anomalous radioactivity extends over 1350m strike length, with samples selected using maximum radioactivity criteria returning up to 0.23% U_3O_8, 0.1% La and 1ppm Au. The source of the radioactivity is confirmed as Xenotime [YPO_4] and is restricted to the basal 6-12m conglomeratic unit of the Middle Proterozoic Gardiner Sandstone. This unit lies unconformably over Lower Proterozoic fine-grained Killi Killi Beds.

Also highlighted is Sr-REE mineralisation consisting of Florencite [$CeAl_3(PO_4)_2(OH)_6$] and Svalbergite [$SrAl_3PO_4SO_4(OH)_6$]. These minerals occur as crystals within the matrix cement, as optically continuous overgrowths on quartz grains and rarely, as reworked fragments of sandstone. Mineralisation is considered to be broadly similar to that in unconformity related U-Au deposits of the South Alligator Valley, NT (Jagodzinski *et al*, 1992).

1.3 GEOLOGY

The Geology of the Mt Frederick Project area consists of interpreted Palaeoproterozoic Mt Charles Beds of the Tanami Complex intruded by both felsic and mafic igneous bodies. The Mt Charles Beds have been further subdivided into a number of units by a number of Normandy-NFM Geologists. These subdivisions from oldest to youngest are:

The distal turbidites of the Blake Beds sequence;

Chemical and pelitic sediments of the Davidson Beds;

The proximal turbidites of the Madigan Beds sequence.

Early Proterozoic Pargee Sandstone overlies the Mt Charles Beds to the north of the Project Area. This is inturn overlain by Mesoproterozoic Gardiner Sandstone in various locations, specifically in the Gardiner Range, and along the margin of the Coomarie Dome.

2. WORK COMPLETED

2.1 SURVEYS

2.1.1 Gridding

A total of 28.1 line kilometres of gridding has been established (see Figures 3, 4 & 5):

1. At each of the prospect areas earmarked for detailed surface geochemical sampling;
2. Over conceptual targets to assist the ground magnetics survey.

2.1.2 Ground Magnetics

Ground magnetics traverses (total 18.6 line kilometres) were surveyed over a number of conceptual targets during the reporting period.

Total magnetic intensity readings were recorded using a G856 Proton Precession magnetometer. Diurnal measurements were recorded using a second magnetometer as a base-station. Base readings were taken every 30 seconds. On completion of the survey, diurnal variations were removed from the data using the MAGPAC program. No modelling was carried out on the profiles. Figure 4 displays the location of the ground magnetic traverses. Appendix 2 catalogues magnetic profiles and traverse origins.

2.1.3 Petrology

19 representative samples from the Project Area were sent to Pontifex & Associates for petrological examination. Full descriptions are submitted as Appendix 3.

2.2 SURFACE SAMPLING

2.2.1 Lag and Rock Chip Sampling

Lag and rock chip samples were collected within EL's 8804, 9015 and 8899. Refer to Figures 3 and 5 for surficial (Lag/CRC) sample coverage within the Project Area.

The surface geochemical sampling program had the objective of assessing areas of outcrop/subcrop within the project area.

Reconnaissance lag samples were collected at 500x500m spacings using a Scoutmaster Global Positioning System (GPS) with an external aerial for navigation and lag sample location. Surface lag material was sieved to a +2mm size fraction and a 100-300g amount was double bagged and retained for multielement and low level gold analysis (see Tables 2, 3 & 8). Notes were made regarding the sample type, quality, description and grain size.

2.2.2 Soil Sampling

Soil sampling was conducted over a gold anomalous area defined by the reconnaissance lag program. The objective of the program was to delineate discrete targets for drill testing.

Samples were collected at 20m spacings from a depth of 15-25cm using a paint-free pelican pick, plastic sieve with a nylon mesh and a clean, plastic bucket. Material was sieved to a -80# (-0.180mm) size fraction and a 300g amount was double bagged and retained for analysis (see Tables 4 & 8 for details).

Sample locations are shown on Figures 3 and 5.

Table 2: Lag Sample Details

Tenement	Sample ID	Total Samples
Pointer (EL 8804)	3202543-3202597.	55
Solo (EL 9015)	3202377; 3202589.	2
Frederick (EL 8899)	3202701-3202789; 3204550-3204588; 3204598-3204600; 3240378-3240400.	154
	TOTAL	211

Table 3: CRC Sample Details

Tenement	Sample ID	Total Samples
Pointer (EL 8804)	756303-756306.	4
Frederick (EL 8899)	756297-756302; 756307-756309.	9
	TOTAL	13

Table 4: SOIL Sample Details

Tenement	Sample ID	Total Samples
Pointer (EL 8804)	32024013242406; 3255701-3256000.	306
Frederick (EL 8899)	3243740-3243870.	131
	TOTAL	437

2.3 DRILLING

2.3.1 Vacuum Drilling

Vacuum drilling was conducted at 400x100m spacings within the Alpha and Beta Tenements. Program objectives were three-fold:

1. Extend the geochemical data coverage in areas of shallow alluvial/colluvial cover (≤15m);
2. Make an assessment of the regolith & therefore, test the effectiveness of existing surface geochemical coverage (1999 program);
3. Provide an indication of bedrock geology.

Holes were drilled to bedrock with generally two-three 1-2kg samples collected from weathered saprolite, or a single Bottom of Hole sample collected in transported overburden, if saprolite was not intersected. All samples were sent to Amdel for analysis (see Tables 5 & 8 for details). Drillhole locations are shown on Figures 2a, 2b, and 5.

Palaeosurface samples were also collected from the bedrock/cover unconformity (DSL, combined coarse & fine fractions) double bagged and sent to Genalysis for analysis (see Tables 6 & 8 for details). Sample locations are shown on Figures 2a, 2b and 5.

Table 5: Vacuum Drill Sample Details

Tenement	Drill Hole ID	Sample ID	Total Samples
Alpha (EL 8301)	ALV001-288	3140397-3140793.	397
Beta (EL 8796)	BETV001-036	3140307-3140396.	90
Solo (EL 9015)	SOLV001-003	3140305-3140306.	2
		TOTAL	489

Table 6: DSL Sample Details

Tenement	Sample ID	Total Samples
Solo (EL 9015)	3202376.	1
Alpha (EL 8301)	3202624-3202700; 3202801-3202965.	242
Beta (EL 8796)	3202378-3202400; 3202612-3202623.	35
	TOTAL	278

2.3.2 Aircore Drilling

Aircore drilling was completed within EL's 8301, 8796, 8797, 9015 and 8899. No drilling was conducted within EL's 8797, 8877 and 8804. Refer to Figures 2a, 2b, 4 and 5 for drill hole locations.

The primary objective of the drilling program was to make a broad assessment of the regolith profile and bedrock geology. A secondary objective utilised ground magnetics to target drilling across:

1. Unresolved magnetic features ;
2. Zones of sharply decreased magnetic intensity representing possible faulting /shearing or alteration associated with mineralisation;
3. Interpreted fold closures;
4. Zones of interpreted significant structural disruption.

Holes were invariably drilled vertically in areas perceived to have greater than 20 metres of cover, however, holes were drilled 60^0 towards AMG east in areas proximal to outcrop. Samples were collected from 3m

composite from the entire hole by spearing piles four times from different directions. Samples were sent to Amdel for multielement analysis by the ARM1 analytical technique (see Tables 7 & 8 for details) and drill chips were retained for later inspection and storage.

All drill holes were plugged on completion by inserting a concrete bung approximately 1m below surface. The cavity is then back filled and mounded with the original drill spoils.

2.3.3 Water Drilling

A silcrete aquifer with a high a flow rate and potentially potable water was identified during the 1999 reconnaissance drilling program. During the 2000 field season, an attempt was made to drill a cased bore using the Moonwalker Aircore Rig. ALWB001 was abandoned when the massive silcrete aquifer (18-30m) could not be 'reamed-out' to a suitable diameter. The hole has been appropriately rehabilitated.

Two water samples were sent to Australian Laboratory Services (ALS) –Environmental Section for water analysis (see Table 8 for details).

Water analysis (see Appendix 1) indicates that the water sample is not suitable for human consumption (without treatment). Sample contamination is possible, however, as the water was unmistakably palatable on site (author).

Table 7: Aircore Drill Sample Details

Tenement	Drill Hole ID	Sample ID	Total Samples
Alpha (EL 8301)	ALAC019-162	3110055-3110067; 3110216-3111000; 3110274A; 3110274B; 3124001-3124178; 3124210-3124337; 3671709-3672333; 3672422-3673000; 3673101-3673159.	2369
	ALWB001	3110068.	1
Beta (EL 8796)	BETAC010-015	3672334-3672421.	88
Delta (EL 8976)	DEAC001	3671689-3671708.	20
Solo (EL 9015)	SOLAC001-013	3673628-3673747.	120
Frederick (EL 8899)	FDAC001-023	3673160-3673448; 3673001-3673100;3673508-525.	407
		TOTAL	3005

Table 8. Laboratory, analytical code, method of analysis, and elements assayed.

SAMPLE TYPE	LABORATORY	CODE	DESCRIPTION
Lag/CRC/ DSL	Genalysis	B*ETA	Aqua Regia digest with Enhanced Sensitivity Graphite Furnace Atomic Absorption Spectrometry.
		A/MS	Multi Acid digest with Inductively Coupled Plasma Mass Spectrometry.
VAC/AC/ SOIL	Amdel	ARM1	10-20g sample, Aqua Regia digestion, ICP-MS finish.
WATER	ALS		See Appendix 1

530000E 535000E 540000E 545000E

7825000N 7820000N

EL 8301
Alpha

EL 8734
Pargee

ULYSSES

HERCULES

ODYSSEY

ENDOR

EL 8976
Delta

EL 8734
Pargee

Old Tanami Road

ALWB0001

DEAC0001

N
W E
S

0 1000m
SCALE 1:50,000

UTM Zone 52 (AGD66)

LEGEND
- Aircore Drillhole
- Vacuum Drillhole
- Water Bore
- Ground Magnetics Traverse

Normandy NFM Limited
NORTH FLINDERS EXPLORATION

NORHERN GREEK EL'S

DRILLHOLE LOCATIONS

FEB 2001

FIGURE 2a

T:\MSDATA\diagram\frederick\gelav002.dgn

530000E 535000E 540000E 545000E

7815000N 7810000N 7805000N

EL 8734
Pargee

EL 8301
Alpha

EL 8796
Beta

EL 8976
Delta

EL 8977
Epsilon

EL 8734
Pargee

ODYSSEY

VENUS

MARS

ZEUS

Old Tanami Road

ALAC088 ALAC089 ALAC090 ALAC091 ALAC092 ALAC093 ALAC094 ALAC095 ALAC096 ALAC097 ALAC098 ALAC099 ALAC100 ALAC101 ALAC102 ALAC103 ALAC104 ALAC105 ALAC106 ALAC107 ALAC108 ALAC109 ALAC110 ALAC111 ALAC112 ALAC113 ALAC114 ALAC115 ALAC116 ALAC117 ALAC118 ALAC119 ALAC120 ALAC121 ALAC122 ALAC123 ALAC124 ALAC125

ALV0001 ALV0010 ALV0011 ALV0021 ALV0022 ALV0032 ALV0033 ALV0039 ALV0041 ALV0042 ALV0043 ALV0044 ALV0045 ALV0046 ALV0047 ALV0048 ALV0049 ALV0050 ALV0051 ALV0052 ALV0053 ALV0054 ALV0055 ALV0056 ALV0057 ALV0058 ALV0059 ALV0060 ALV0061 ALV0062 ALV0063 ALV0064 ALV0065 ALV0066 ALV0067 ALV0068

BETV0001 BETV0010 BETV0011 BETV0021 BETV0022 BETV0027 BETV0028 BETV0035 BETV0036

BETAC010 BETAC011 BETAC012 BETAC013 BETAC014 BETAC015

N
W E
S

0 1000m
SCALE 1:50,000

UTM Zone 52 (AGD66)

LEGEND
- Aircore Drillhole
- Vacuum Drillhole
- Water Bore
- Ground Magnetics Traverse

Normandy NFM Limited
NORTH FLINDERS EXPLORATION

SOUTHERN GREEK EL'S

DRILLHOLE LOCATIONS

FEB 2001

FIGURE 2b

T:\MSDATA\diagram\frederick\gelav002.dgn

515000E 517500E 520000E

7815000N 7812500N 7810000N 7807500N

EL 8899
Frederick

ELA 10408
Kryton

EL 8734
Pargee

N
W E
S
0 600m
SCALE 1:30,000

UTM Zone 52 (AGD66)

Normandy NFM Limited
NORTH FLINDERS EXPLORATION

EL 8899 - FREDERICK

SAMPLE LOCATIONS

FEB 2001

LEGEND
△ CRC Sample
□ Lag Sample
◎ Soil Sample

FIGURE 3

T:\MSDATA\diagram\frederick\freav002.dgn

500000E 510000E 520000E

7830000N 7820000N 7810000N

EL 8734
Pargee

EL 8899
Frederick

ELA 10408
Kryton

TR.1 TR.2 TR.3 TR.4 TR.5 TR.6 TR.7 TR.8 TR.9

FDAC0001 FDAC0002 FDAC0003 FDAC0004 FDAC0005 FDAC0006 FDAC0007 FDAC0008 FDAC0009 FDAC0010 FDAC0011 FDAC0012 FDAC0013 FDAC0014 FDAC0015 FDAC0016 FDAC0017 FDAC0018 FDAC0019 FDAC0020 FDAC0021 FDAC0022 FDAC0023

KILLIKILLI HILLS

WESTERN AUSTRALIA
NORTHERN TERRITORY

N
W E
S

0 1600m
SCALE 1:80,000

UTM Zone 52 (AGD66)

Normandy NFM Limited
NORTH FLINDERS EXPLORATION

EL 8899 - FREDERICK

DRILLHOLE & GROUND MAGNETICS TRAVERSE LOCATIONS

FEB 2001

LEGEND
- Aircore Drillhole
- Ground Magnetics Traverse

FIGURE 4

T:\MSDATA\diagram\frederick\freav001.dgn

520000E

522000E

7804000N

7802000N

7800000N

7798000N

EL 8734
Pargee

EL 8804
Pointer

ELA 9016
Clover
(veto)

EL 9015
Solo

3202548 3202547 756306 3202546 3202545 3202544 3202543
756305
756303
756304
3202549 3202551 3202552
3202550
3204595
3204596
3204597
3204589
3204590
3204591
3202556 3204592 3204593 3204594 3202555 3202554 3202553
3202557 3202558 3202559
3202563 3202562 3202561 3202560
3202564 3202565 3202566 3202567
3202569
3202572 3202571 3202570 3202568
3202573 3202574 3202575 3202576 3202577
3202581 3202580 3202579 3202578
3202582 3202583 3202584
3202588 3202587 3202586 3202585
3202589
3202377
3202376

SOLAC0013 SOLAC0012 SOLAC0011 SOLAC0010
SOLAC0005 SOLAC0006 SOLAC0007 SOLAC0008 SOLAC0009
SOLV0003 SOLAC0004 SOLAC0003 SOLV0002 SOLAC0002 SOLV0001 SOLAC0001

N
W E
S
0 400m
SCALE 1:20,000

UTM Zone 52 (AGD66)

Normandy NFM Limited
NORTH FLINDERS EXPLORATION

EL 8804 - POINTER & EL 9015 - SOLO

SAMPLE & DRILLHOLE LOCATIONS

FEB 2001

LEGEND
- △ CRC Sample
- □ Lag Sample
- ◘ Soil Sample
- ⊗ Aircore Drillhole
- ○ Vacuum Drillhole

FIGURE 5

T:\MSDATA\diagram\frederick\poiav002.dgn

3. RESULTS AND DISCUSSION

3.1 SURFACE SAMPLING

3.1.1 Frederick EL 8899

Results from reconnaissance (500x500m) lag/CRC sampling highlight three geochemically anomalous areas:

1. NNW trending 1.5x2.5km Gold-Antimony anomaly (max 163.2ppb Au, 19.4ppm Sb).
2. A narrow (20cm), subcropping, sheared quartz vein returned 326.2 ppb Gold from CRC SN756307. Lag sampling highlights a coincident 1x3km NNW trending antimony anomaly (max 14.3ppm).
3. A single Gold result of 29.1ppb was returned from coarse pisolithic nodules and minor subangular quartz vein fragments shedding from a ferruginous 'capping'.

Soil sampling has been conducted at 20x100m and 20x200m over reconnaissance lag Anomalies 1 & 2 respectively. Geochemical results were discouraging with all assays returning less than 1.5 ppb gold.

3.1.2 Pointer EL 9015

Reconnaissance lag sampling (500x500m) highlighted a 1.5x1.5km Antimony anomaly (10-20ppm) with a weak Gold association (max 11 ppb).

Selective verification lag sampling at significant sites returned assays of 39.9ppb Au, 26ppm Sb and 130ppb Au, 60ppm Sb from samples 3204592 and 3204595 respectively. Gold appears hosted in narrow quartz veins within greywacke and pelitic sediments.

Soil sampling was conducted at 20x200m spacings over the lag anomaly. All results were considered insignificant except for the first 5-7 samples, which returned Gold assays up to 35ppb. 'On-site' contamination is suspected. A selection of reassayed samples returned similar results, therefore eliminating the possibility of an introduction of a contaminant at a laboratory level.

3.2 DRILLING

The drilling phase facilitated a broad assessment of the Project Area regolith and bedrock geology.

Drilling encountered extensive recent aeolian cover of variable thickness overlying Palaeoproterozoic sediments of various affinities. Transported pisoliths and ferruginous rocky fragments were found to be common at the cover/bedrock unconformity, with saprolite invariably completely weathered to greater than 70 vertical metres.

Table 9 lists the best intersections from this program. Refer to Appendix 1 for comprehensive drillhole logs and assays.

Table 9: Significant Aircore Intersections

Area	Drillhole ID	Intersection	Downhole Depth	Comments
Alpha (EL 8301)	ALAC087	18m @>15ppb Au, max 110 ppb Au	27	Colv + sap Blt/slst
	ALAC097	15m @>35ppb Au, max 155ppb Au	18m	Transp Au
	ALAC140	24m @>10ppb Au, max 138ppb Au	24m	Pelt/Qzt, ± Serc altn ±qV
	ALAC151	12m @>10ppb Au, max 443ppb Au	27m	Seds (± Si altn)
	ALAC152	3m @98ppb Au (EOH)	54m	Seds
Frederick (EL 8899)	FDAC019	3m @13ppb Au	27m	Transp Au
	FDAC021	3m @210ppm As	36m	Seds ±qV, ±Serc altn

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APPENDIX 1

DIGITAL DATA

mtfred_Assay.dat
mtfred_CodeGeol.dat
mtfred_Collar.dat
mtfred_samples.dat
mtfred_Survey.dat

APPENDIX 2

Geophysics Survey Data (EXCEL file on CD)

APPENDIX 3

Petrological Sample Descriptions

Report #	Author	Date	Work	Geo	Prospect					Notes
Petrology #	Count	ID		Type	NFMSample #	From	To	Easting	Northing	Description
Mt Frederick										
P8046	**PU**	**4/11/2000**	**TS, PET**	**DP**	**Mt Frederick**					
P06086	1	ALAC092		DC	3671798	51	54	532340	7815089	Two chips A. Quartz-sericite-limonite-leucoxene aggregates with some textural similarities with Old Pirate Microgranite, cut by quartz-sericite veins. B. Fragments of limonite-rich ana opaque, probably carbonaceous claystones in microsparry carbonate
P06087	2	ALAC102		DC	3671994	39	42	532195	7814295	Two chips of sericite to limonite/haematite rich clay-slate and one chip of cherty to micrtosparry low-temperature hydrothermal quartz. Similar to supposed Tanami Complex samples at Challenger: barely metamorphosed, but not diagnostic and could be Pargee.
P06088	3	ALAC110		DC	36721111	48	51	531691	7813106	Two lithologies: 1. Quartz-rich very fine grained sandstone with detrital muscovite and disseminated limonite. Could be Pargee. 2. Foliated bedded claystone to siliceous claystone.
P06089	4	ALAC113		DC	3672146	27	30	530596	7813083	Quartz-lithic to coarse grained sandstone with intraclasts of limonite rich claystone. Tanami Mine sequence or basal Gardiner Sandstone.
P06090	5	ALAC114		DC	3672157	30	33	530198	7813102	Probable olivine basalt, altered to serpentine-clay-limonite-quartz-leucoxene also clay veins rarely containing quartz.
P06091	6	ALAC162		DC	3673059	72	75	532502	7820258	Two lithologies: One chip of sericite-limonite claystone. One chip of low-temperature hydrothermal cherty to chalcedonic quartz with small black crystals. Similar to the lithologies in ALAC102.
P06092	7	ALAC158		DC	3672980	63	72	534642	7822107	Soil with quartz fragments and pisolites, weathered basalt or dolerite and silicified/greisenised possible granitoid with vague similarity to Old Pirate Microgranite, or Twin Bonanza Porphyritic Microgranite.
P06093	8	FDAC003			3673214	33	36	515982	7822702	Unmetamorphoised quartz-lithic very coarse grained sandstone with a possible acid volcanic provenance.
P06094	9	FDAC004		DC	3673245	78	81	517000	7823500	Two core samples: A. Lithic-quartz rich fine grained sandstone with quartz rich to sericite rich and volcanic lithic fragments (basalt?) in a sericite-rich matrix. B. More quartzofeldspathic-lithic fine to medium grained sandstone with more abundant volcanic clasts (basalt?) and virtually no matrix. Siltstone/mudstone intraclasts occur in both samples.
P06095	10	FDAC007		DC	3673011	57	60	511430	7825900	Laminated siltstone and claystone with limonite-rich and limonite-poor beds and a lenticular quartz vein.
P06096	11	FDAC021		DC	3673432	27	30	517814	7810776	Apparently matrix-poor coarse grained lithic quartz sandstone with voids passing into limonite/clay lenses and veins (root casts?)
P06100	15	ALAC119		DC	3672232	42	45	530778	7813914	Weathered metamorphosed quenched crystalline to glassy basalts with clay-quartz veins, as seen in the Redeye-Rabbit Flat area.

EL8301 Alpha

P7983 PO 1/06/2000 TS DP Alpha (EL) ***Alpha***

P06078	ALAC029	DC	3110360	51	54	533422	7819880	Micritic carbonate +/- limonite as patches and fragments veined by carbonate and enclosed in a matrix of felted-scalenohedral to microplaty carbonate. Probably of low-temperature hydrothermal to epithermal origin.
P06079	ALAC036	DC	3110474	54	57	533041	7821084	Clay-albite-leucoxene-altered porphyritic rock with former feldspar phenocrysts and ferromagnesian phenocrysts in a clay-leucoxene groundmass (+/- quartz?). May have been andesitic but immobile-element geochemistry would be useful for a more precise classification.
P06080	ALAC075	DC	3124086	39	60	533786	7826682	A. Quartz-lithic sandstone with areas of clay-rich matrix containing two foliations at about 90 degrees to each other, detrital muscovite and opaque oxide. Possibly Tanami Mine sequence (or Gardiner Sandstone?). B. Micaceous very fine grained sandstone, possibly Tanami Mine Sequence. C. Weathered sandstone with incipient laterite formation.
P06081	ALAC079	DC	3124155	57	60	533786	7826682	Sericite-limonite-leucoxene-quartz altered porphyritic possible andesite. Contains altered feldspar, amphibole or pyroxene and biotite phenocrysts as well as oxidised small opaque oxide crystals.
P06082	ALAC082	DC	3124337	99	101	534381	7818307	Sericite-carbonate-hematite-leucoxene-altered also foliated, possibly olivine porphyritic basalt with silicified olivine. Early carbonate-chlorite-quartz veins and later veins containing hematite and limonite in addition. Probable Tanami Mine Basalt?
P06083	ALAC086	DC	3124300	36	39	533340	7819500	Two small chips of lithic-quartz sandstone (very coarse grained sandstone) with clay-altered lithic grains and interstitial limonite, and a limonite-flooded fine-grained sediment with kaolin and luecoxene. No obvious phyllosilicate-defined foliation. Tanami Mine sequence or Gardiner Sandstone?
P06084	ALAC087	DC	3124336	57	87	532640	7819500	A. Weathered fine-grained sparsely porphyritic basalt. B. Plagioclase porphyritic basalt. Both probably Tanami Mine Basalt with limonite veins +/- clays.

Petrology Report Numbers are suffixed with a, b, c etc to enable classification into project areas.
For example, the existence of Report Nos. P1234, P1234a and P1234b indicates that samples described in the report are from three distinct prospect areas.

BIBLIOGRAPHIC DATA SHEET

REPORT NUMBER:	CR27959
REPORT TITLE:	SECOND ANNUAL REPORT FOR THE MT FREDERICK PROJECT FOR THE CALENDAR YEAR 2000
PROJECT NAME:	FREDERICK
TENEMENT NUMBERS:	8301 ALPHA, 8796 BETA, 8976 DELTA, 8977 EPSILON, 8797 GAMMA, 8804 POINTER, 9015 SOLO, 8899 FREDERICK.
OWNER:	Normandy NFM
COMMODITIES:	Gold
TECTONIC UNITS:	Tanami Inlier
STRATIGRAPHIC UNITS:	Mount Charles Beds, Pargee Sandstone, Gardiner Sandstone, Talbot Well Formation
1:250,000 MAPSHEET:	SE52-15 “Tanami”
1:100,000 MAPSHEET:	4758
KEYWORDS:	Aerial Magnetic Surveys, Aircore Drilling, Backfill, Drilling, Exploration Philosophy, Geochemical Anomalies, Geochemical Sampling, Geological Interpretation, Geological Logs, Geomorphology, Geophysical Anomalies, Geophysical Interpretation, Geophysics, Granitic Rock, Ground Magnetic Surveys, Lag Sampling, Landform Regolith Mapping, Laterites, Mafic Volcanics, Magnetic Profiles, Magnetic Susceptibility, Metamorphism, Multielement Analysis, Palaeodrainage, Petrology, Reconnaissance, Regional Geology, Regolith, Rehabilitation, Soil Sampling, Vacuum Drilling, Weathering.