REPORT FOR THE BARROW CREEK PROJECT
COVERING THE 1999 FIELD SEASON

EXPLORATION LICENCES COVERED BY THIS REPORT:

EL7928 CRAWFORD
EL8294 KIRIN
EL8771 BAXTERS WELL
EL9085 SPRINGBOK
EL9086 KUDU
SEL8432 WINDHOEK
SEL22042 ODYSSEUS

1:250,000 Sheet Reference:
BARROW CREEK SF53-6
BONNEY WELL SF53-2
LANDER RIVER SF53-1

1:100,000 Sheet Reference:
JARRAH JARRAH 5556
NUMAGALONG 5656
CRAWFORD 5655
TAYLOR 5755

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- NORMANDY NFM LIMITED
- YUENDUMU MINING COMPANY NL

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MEH SMITH
APRIL 2000
NORMANDY RN: 26794
SUMMARY

The area covered by the Barrow Creek Joint Venture (BCJV), located approximately 200km south of Tennant Creek, is being explored for economic gold mineralisation.

The BCJV tenements are held by Normandy Gold and Yuendumu Mining Company. A joint venture agreement exists between Normandy Gold and Normandy NFM consolidating all exploration tenements in the Tanami-Arunta region, including the existing BCJV Project area. As a result of this agreement, exploration of the JV properties is managed by Normandy NFM Ltd.

During 1998, Normandy NFM negotiated an agreement with the NT DME to provide a group reporting arrangement for the Barrow Creek JV exploration licences. It was also agreed that the report would cover a calendar year (field season) rather than anniversary year. A submission date of 31st April each year was established for the Barrow Creek Project. This report represents the second Barrow Creek Project annual report and as such, describes the exploration activity pertaining to all exploration licences within the BCJV from the 1st of January 1999 to the 31st of December 1999. It includes exploration licenses 7928 (Crawford), 8294 (Kirin), 8771 (Baxters Well), 9085 (Springbok) and 9086 (Kudu) together with substitute exploration licenses 8432 (Windhoek) and 22042 (Odysseus).

Tenement maintenance activities conducted over the reporting period included the application for and the grant of SEL22042. This process necessitated the surrender of the two former licenses 8294 and 8432 ahead of inclusion into the new substitute exploration license. The Kudu license (EL 9086) was surrendered during the year while relinquishment waivers were granted for EL's 8771 and 9085.

Work has included:

- Completion of the diamond core relogging programme from the Kroda prospect within SEL22042. This included the relogging of six diamond tails to RC holes.
- The evaluation of soil, vacuum, and reverse circulation results from EL7928 (Crawford) and SEL22042 (Odysseus) in order to prioritise areas of exploration focus.
- Calculation of an un-categorised resource for the Kroda gold prospect within the Odysseus SEL.
- Field checking and rehabilitation where necessary of all previous exploration activities within the BCJV. This included the removal and plugging of RC and RAB drill collars within the Crawford and Odysseus licenses.
- Meetings with traditional owners and the Central Lands Council were initiated and provided encouraging feedback regarding access to much of the BCJV area in the near future. Employment initiatives whereby indigenous people participated in the comprehensive rehabilitation programmes were well received.

A comprehensive and wide-ranging exploration program is proposed for the BCJV area for the upcoming field season. As in past years however, it is dependant on the outcome of on-going discussions with the CLC and traditional owners regarding access to the Project area.
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Annual Report For The Barrow Creek Project, April 2000
Normandy NFM Limited
Normandy RN: 26794
1. INTRODUCTION

This document is the second project group report to be completed for the Barrow Creek JV Project (BCJV). It describes exploration activities associated with exploration licences held by the BCJV, namely EL's 7928, 8294, 8771, 9085 and 9086 together with SEL's 8432 and 22042. The document reports on exploration activity covering the period 1st of January 1999 through to the 31st of December 1999 for the respective tenements (Table 1).

2. TENEMENT DETAILS

As at the 31st of December 1999, tenements within the BCJV Project made up a total of 337 graticular blocks for 1076 sq. km. A summary of tenement details for the exploration licences is listed in Table 1. As all (or at least parts of all) licences fall within the BCJV Area of Interest, the licences have been included under the Joint Venture Agreement. Normandy NFM entered into, and became the operators of, the BCJV on the 1st of July 1998. The present breakdown between the JV partners is as follows:

<table>
<thead>
<tr>
<th>Company</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Normandy Gold Pty Limited</td>
<td>42.5%</td>
</tr>
<tr>
<td>Normandy NFM Limited</td>
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</tr>
<tr>
<td>Yuendumu Mining Company</td>
<td>15%</td>
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### TABLE 1: Tenement Summary for BCJV Exploration Licences

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<tr>
<th>Licence</th>
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<th>Blocks</th>
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<th>Expiry</th>
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<td>222*</td>
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<td>3</td>
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<td></td>
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<td></td>
</tr>
<tr>
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<td></td>
<td></td>
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<td>EL8771</td>
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<tr>
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<td></td>
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<td>19*</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Surrender:</td>
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<td></td>
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<td>09/12/99</td>
<td>117</td>
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<td></td>
</tr>
</tbody>
</table>

* blocks/areas relinquished or surrendered

### 3. LOCATION AND ACCESS

Exploration Licences within the BCJV are located approximately 200km south of Tennant Creek and between 20 to 75km north to northwest of Barrow Creek (Figure 1). Access from Barrow Creek is via the Stuart Highway to the north and then using numerous station tracks of variable but generally good quality. The tenements are located on the Stirling and Neutral Junction stations (NT Portion 655 & NT POR. 3375 respectively).
4. PREVIOUS EXPLORATION

4.1 Previous Exploration by Other Companies

Exploration at Barrow Creek has historically been largely for base metals, gold and Sn/W/Ta deposits. Within the Crawford, Osborne and Watt Range areas, numerous copper workings can be found, including Home of Bullion and Petricks. The area to the south of the Crawford Range has been the site of the majority of tin, tungsten and tantalum workings, most being small, low tonnage operations.

Kewanee Australia Pty Ltd undertook a broad exploration program between 1970-1974 within the Crawford-Osborne Range area. Several targets were delineated by a combination of airborne magnetics, radiometrics and EM survey techniques. Targets generated by this method were followed up with geological mapping, sampling and a combination of percussion, reverse circulation and diamond drilling. This work delineated a sub-economic Cu-Ni resource (Prospect D), but grade was considered too low to warrant further investigation, and the ground was relinquished in 1973.

Limited exploration was conducted by Australis Mining NL during 1969, for base metal potential in the Crawford Range area. Pegmatites, granites and metadolerites were targeted with disappointing results.

More recently, Aberfoyle Ltd has explored for firstly base metal mineralisation, and thereafter, gold mineralisation in the Home of Bullion area.

4.2 Previous Exploration by Normandy Exploration Limited

Normandy (and its precursor companies) has had an exploration presence in the Barrow Creek area since 1988. Work over this time has included reconnaissance techniques such as soil sampling and vacuum and RAB drilling as well as detailed aeromagnetics/radiometrics surveys, regional ground-based gravity surveys and detailed regional regolith mapping. Detailed prospect evaluation work has also been conducted, including reverse circulation and diamond drilling as well as prospect-based IP surveys. The gold-mineralised prospects Kroda (8m @ 11.72g/t Au in RC drilling), NW Petricks (6m @ 1.6g/t Au in RC drilling) and Tiptoe (3m at 2.34 g/t in RC drilling) were discovered within the bounds of SEL22042 while the Morphett gold mineralised prospect (several metres at several g/t in RAB drilling) was found within EL7928.
5. GEOLOGY

5.1 Regional Geology

The oldest exposed basement in central Australia comprises metamorphic and igneous rocks of the Arunta Inlier (Haines et al., 1991). Rocks of the Arunta Inlier are interpreted as being at least partly correlative with sedimentary and volcanic sequences of the adjacent Tennant Creek and Granites-Tanami Inliers.

The Arunta Inlier (Early-Middle Proterozoic) is characterised by metamorphosed sedimentary and igneous rocks of low to medium pressure facies. Deformation and regional metamorphism to upper greenschist facies took place between 1810-1750 Ma (Black, 1981). Shaw and Stewart (1975) established three broad stratigraphic subdivisions based on facies assemblages and lithological correlations. From oldest to youngest, these subdivisions are named Division 1, 2 and 3. Using this model defined by Shaw and Stewart (1975), the orthogneiss east of Osborne Range, the calc-silicate rocks west of Crawford Range and the Bullion Schist would be included in Division 2, and the Ledan Schist in Division 3 of the Arunta Inlier.

Unconformably overlying these rocks are the Hatches Creek Group sediments and volcanics. Blake et al. (1987) formally subdivided the Group into the Ooradidgee, Wauchope and Hanlon Subgroups, comprising a total of 20 Formations and two Members. The Hatches Creek Group is a folded sequence of shallow-water sediments with interbedded volcanic units which reach thicknesses of at least 10,000 metres.

The sediments include ridge-forming quartzites, felspathic, lithic and minor conglomeratic arenites and friable arenite, siltstone, shale and carbonate. The Ooradidgee Subgroup consists mainly of fluvial sediments and sub-aerial volcanics which partly interfinger. The Wauchope Subgroup is characterised by large volumes of volcanics and sediments probably both marine and fluvial in origin. The Hanlon Subgroup may be entirely marine and lacks volcanics (Blake et al., 1987).

Deformation and regional metamorphism took place between 1810-1750 Ma (Black, 1981). Folding was about NW trending axes while metamorphism to upper greenschist facies took place. Later intrusion of both the Arunta basement and the Hatches Creek Group by granitoids of the Barrow Creek Granitic Complex took place around 1660 Ma (Blake et al., 1987). Contact metamorphism and metasomatism are often observed.

Sedimentation associated with the Georgina Basin commenced during the Late Proterozoic with the Amesbury Quartzite and was terminated during the Early Devonian after deposition of the Dulcie Sandstone. The Georgina Basin sequence was mildly affected by the Carboniferous Alice Springs Orogeny.

A long erosional period followed with subsequent deep weathering during the Tertiary produced silcrete and ferricrete horizons. A veneer of Quaternary sands and soils overlays much of the area, except where recent and active alluvial sedimentation is present.
5.2 Local Geology

Surface geology over EL7928 ranges from outcrop to thick cover in washout areas, and on average there is 4-5 m of soil cover. The dominant rock types include quartz-biotite schists and quartz arenites to the north, interpreted to be part of the Gwynne Sandstone and Illoquara Sandstone, along with tuffaceous siltstones and arenites of the Strzelecki Volcanics. Minor granite intrusives occur throughout the area. A strong NW-SE foliation is observed in the region paralleled by numerous quartz veins. Recent drilling at the Morphett Prospect has identified isoclinally folded Bullion Schist and amphibolites. The fold axes trend northwest and there are numerous cross-cutting pegmatite veins also present. Occasional patches of sub-crop occur but most of the area lies under a mix of residual and transported soils 2-4 m deep.

Surface geology over EL8294 ranges from outcrop to thick cover in washout areas. On average there is 5-6 m of soil cover. The dominant rock types include mica-sericite schists, interpreted to be part of the Bullion Schist Formation, along with feldspathic and quartz-rich arenites of the Gwynne Sandstone. A strong NW-SE foliation is observed in the region. The reader is referred to Mujdrica, 1995 for a geological map of the licence area.

Surface geology within SEL8432 consists of thick cover in wash out areas, however on average there is 2-3 m of soil cover. The dominant rock type includes mica-sericite schist, interpreted to be part of the Bullion Schist Formation, along with intruding granites. A strong NW-SE foliation is observed in the region paralleled by numerous quartz veins. The reader is referred to Mujdrica, 1995b for a geological map of the licence area.

Residual soil and aeolian sand predominantly cover the C1 to C5 anomalies. Dominant rock types include quartz-mica schist with andalusite porphyroblasts (Bullion Schist) and amphibolite lenses, which appear conformable with the schist. Numerous quartz veins parallel S1 schistosity and fracture cleavage planes. The quartz veins are chalcedonic, usually highly fractured and locally gossanous.

Sheared quartz-mica schist (Bullion Schist) and locally epidotised amphibolite dominate NW Petricks. The amphibolite appears conformable to the schist unit as it parallels the S1 schistosity. Bullion Schist outcrops prominently in the area intruded by granite and diorite sills. A highly silicified porphyritic rhyolite with abundant quartz stockwork veining (Mt Strzelecki Volcanics) is also present in the area.

A mix of aeolian sands and alluvial sediments cover the majority of the EL8771 area. The alluvial sediments are derived from the associated floodplains and palaeo-channels of the northward flowing Hanson River that flows through the western portion of the licence. Results from a regional RAB drilling program (Morris, 1996) have shown that Bullion Schist and gneiss are present in the east of the licence. The regional aeromagnetic data suggests that these units from the Arunta Inlier continue to trend WNW, parallel to the Wiso Basin margin that lies further to the north. The regional RAB drilling also identified a large granite body, immediately to the west of the Hanson River.

Surface geology within EL9085 consists mostly of valley plain colluvial detritus with two colluvial channels running roughly north south through the licence which are associated with Taylor Creek. Isolated subcrop and outcrop occurs in the south of the licence and consists of Bullion Schist in the west and probable Hatches Creek Group and Ali Curung Granite in the east.

Quaternary sediments, especially in the western half, cover the majority of EL9086. Alluvial sands, gravels and/or aeolian sands are the more common Quaternary deposits; red earth soils, commonly with ferruginous pisoliths and characterised by stands of mulgas are also recognised. The eastern portion of the Exploration Licence 9086 is represented by Strzelecki volcanics and Illoquara sandstone (Hatches Creek Group, Wauchope Subgroup) forming the Osborne Range (West, 1997a).

For the local geology within SEL22042, please refer to the descriptions of preceding licenses 8294 and 8432.
6. WORK UNDERTAKEN

In-ground work during the 1999 field season on exploration licenses covered in this report was restricted to the rehabilitation of all exploration activities conducted to date. This program of rehabilitation included the employment of indigenous people from Barrow Creek. Six diamond hole collars from the Kroda C5 mineralised prospect were remain but have been capped. This is to provide access for down-hole geophysical testing as well as leaving the holes open for possible future drillhole extensions.

An independent geological consultant was contracted to provide an approximate resource calculation for the Kroda C5 gold mineralised prospect during the reporting period. As the majority of drilling into the prospect is RAB, the dataset is not of sufficient quality to report to the public. The resource estimate was undertaken in order to give Normandy NFM an independent assessment of the scope and potential of the prospect.

An evaluation of previous soil sampling, vacuum drilling, RAB drilling and RC drilling within the Odysseus and Crawford licenses was undertaken in order to prioritise areas requiring further work. The western end of the Odysseus SEL was highlighted as holding immediate potential for additional gold anomalias.

As has been previously discussed with the NTDME, the area covered by much of the BCJV is within a Sacred Site Application over a substantial portion of the Crawford and Osborne Range area. Normandy NFM considered that it was not possible to conduct any meaningful exploration within areas influenced by the Sacred Site Application during the reporting period.

The hand over in management of the Barrow Creek Project to Normandy NFM has seen every effort being made to advance our relationship with the traditional owners who speak for the area under claim. Meetings initiated thus far together with our employment initiatives involving local aboriginal people provide encouragement of access to some of these areas in the near future. It is felt that significant progress has been made with the current approach, developing a rapport with traditional owners through education in the processes and aims of exploration and mining as well as introducing local Aboriginals into the exploration workforce.

A detailed tenement review and ranking process was completed upon Normandy NFM assuming management of tenements within the Barrow Creek Joint Venture. This process rationalised the BCJV’s exploration licence holding in the area to those areas considered to have the highest potential to host economic gold mineralisation.
7. FORWARD PROGRAM

7.1 Proposed Work

Proposed work for the BCJV exploration licences will aim to both upgrade existing geochemical anomalies within areas of past exploration activity and additionally, conduct reconnaissance exploration within areas that have yet to receive significant work. Naturally, the work program is subject to agreements being reached with the traditional owners regarding access.

Proposed work includes:

- Reconnaissance RAB drilling traverses within EL8771 (Baxters Well) in order to better define bedrock geology, regolith as well as depth of cover.

- Detailed RAB drilling over areas of defined bedrock anomalism within EL8771 (Baxters Well) and thereafter assess mineralised areas with a focussed RC drill program.

  Evaluation of an interpreted domain of Bullion Schist within the northwest of EL7928 (Crawford) through a reconnaissance lag, CRC and soil sampling program.

- Surficial sampling (soil/lag) with RAB drilling follow-up of bedrock anomalism within SEL22042 (Odysseus). This will be both in areas that have not previously been followed-up as well as over areas of identified bedrock anomalism.

- Line clearing for drill rig access associated with the drilling programs.

- Drillhole and access track rehabilitation, where applicable, after individual work programs.

- Establishing various rock and mineralisation relationships through detailed petrological analysis.

In-ground exploration expenditure will be immediately committed to this highly prospective area as soon as access is available. The Barrow Creek area is believed to have a high potential for economic gold mineralisation.
8. REFERENCE LIST / ANNUAL REPORT BIBLIOGRAPHY

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EL8294 (Kirin)


SEL8432 (Windhoek)


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EL9086 (Kudu)


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