

4th ANNUAL REPORT FOR THE BARROW CREEK PROJECT

Covering the
2001 FIELD SEASON

EXPLORATION LICENCES COVERED BY THIS REPORT:

EL7928	CRAWFORD
EL8771	BAXTERS WELL
SEL22042	ODYSSEUS

NORTHERN TERRITORY

Volume 1 of 1

1:250,000 SHEET:	Lander River	SF53-01
	Bonney Well	SF53-02
	Barrow Creek	SF53-06

1:100,000 SHEET:	Jarrah Jarrah	5556
	Numagalong	5656
	Crawford	5655
	Taylor	5755

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TENEMENT HOLDERS: Newmont Gold Exploration Pty Limited
Normandy NFM Limited
Yuendumu Mining Company NL

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SUMMARY

The area covered by the Barrow Creek Joint Venture (BCJV), located approximately 300km north of Alice Springs, is being explored for economic gold mineralisation.

The BCJV tenements are held by Newmont Gold Exploration Pty Ltd (Newmont) and Yuendumu Mining Company NL (YMC). A joint venture agreement exists between Newmont and Normandy NFM Limited (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.

During 1998, Normandy NFM negotiated an agreement with the NT BIRD 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 30st April each year was established for the Barrow Creek Project. This report represents the third 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 2001 to the 31st of December 2001. It currently includes exploration licences 7928 (Crawford), 8771 and (Baxters Well) together with substitute exploration licence 22042 (Odysseus). Exploration licence 9085 (Springbok) was surrendered in October 2001.

Tenement maintenance activities conducted over the reporting period included:

- Relinquishment of ground from EL 7928 Crawford
- Amendment of SEL application 10038 Thumper
- Surrender of EL 9085 Springbok

Meetings with traditional owners and the Central Land Council provided encouraging feedback regarding access to much of the BCJV area in the near future. Newmont entered into an Indigenous Land Use Agreement (ILUA).

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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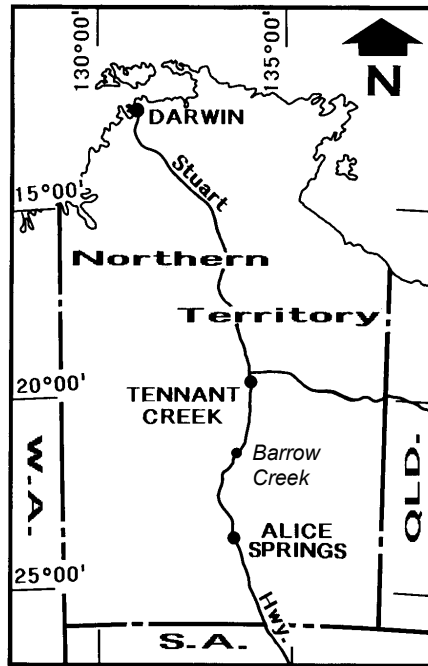
Table 1 Tenement Summary for BCJV Exploration Licences
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Appendix 1 Letter from the NT BIRD, RE: Rehabilitation of Exploration Sites.
Appendix 2 Bibliographic Data Sheet

1. INTRODUCTION

This document is the fourth 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, 8771 together with SEL 22042. The document reports on exploration activity covering the period 1st of January 2001 through to the 31st of December 2001 for the respective tenements (Table 1).



2. TENEMENT DETAILS

As at the 31st of December 2001, tenements within the BCJV Project made up a total of 312 graticular blocks for 995 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:

Newmont Gold Exploration Pty Limited	42.5%
Normandy NFM Limited	42.5%
Yuendumu Mining Company NL	15%

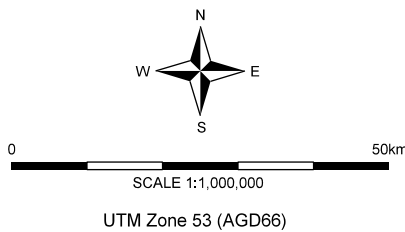
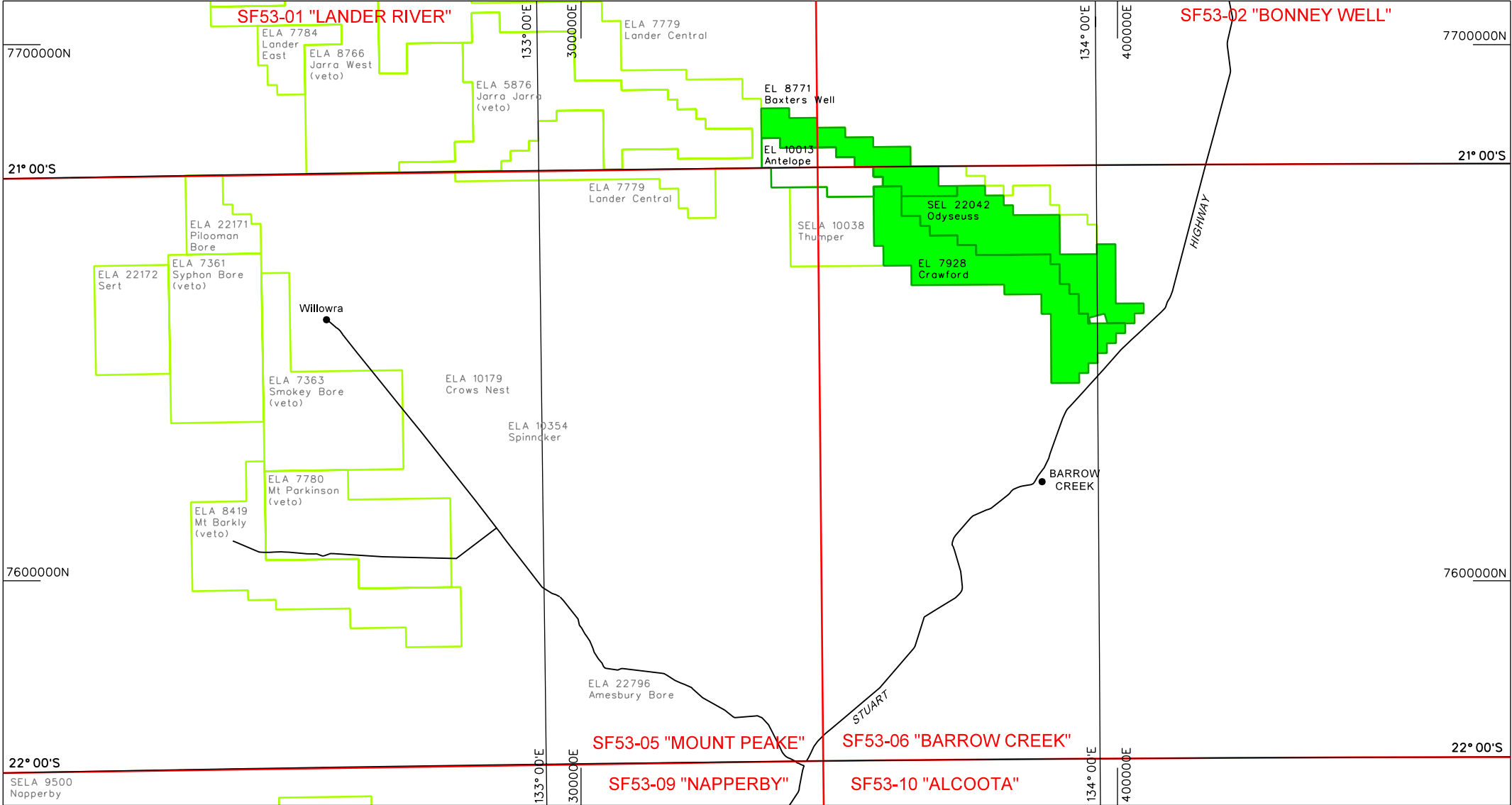
TABLE 1: Tenement Summary for BCJV Exploration Licences

Licence	Detail	Date	Blocks	Km ²	Expiry
EL7928	Grant:	05/02/93	210	676	Section 29A renewal
	First Relinquishment:	04/02/99	69*	222*	4/2/03
	Second Relinquishment:		7*	25*	
EL8771	Grant:	20/10/94	134	431	Section 29A renewal
	First Relinquishment:	19/10/96	67*	216*	19/10/02
	Second Relinquishment:	19/10/97	6*	19*	
EL9085	Grant:	12/11/96	35	113	11/11/02
	First Relinquishment:	11/11/98	17*	55*	
	Surrender	11/10/01	18*	58*	
SEL22042	Grant:	09/12/99	117	377	8/12/03

* blocks/areas relinquished or surrendered

3. LOCATION AND ACCESS

Exploration Licences within the BCJV are located approximately 300km north of Alice Springs 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).



Normandy NFM Limited

NORMANDY EXPLORATION PTY LTD

EL 7928 - CRAWFORD, EL 8771 - BAXTERS WELL, SEL 22042 - ODYSSEUS

TENEMENT LOCATION PLAN

15/04/2002

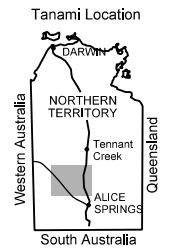


FIGURE 1

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 Newmont Gold Exploration Pty Ltd

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.

In 1999 although no exploration activities were permitted, an extensive program was undertaken to rehabilitate sites of previous exploration drilling activities. Except for a few diamond holes, PVC collars were cut back below the surface and sealed with concrete plugs.

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 4-5m 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 within **SEL22042** consists of thick cover in wash out areas, however on average there is 2-6m of soil cover. The dominant rock type includes mica-sericite schist, interpreted to be part of the Bullion Schist Formation, along with feldspathic and quartz-rich arenites of the Gwynne Sandstone, and 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.

6. WORK UNDERTAKEN

As has been previously discussed with the NT BIRD, 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.

Our current approach is to develop a relationship with traditional owners with employment initiatives designed to educate local aboriginal people in the processes and aims of exploration and mining. Along with ongoing meetings with the traditional land owners this has allowed us to show that we are willing to change our work practices to accommodate their requirements and that we respect and have a growing understanding of the cultural significance of the land we wish to explore.

An evaluation of previous soil sampling within the Springbok, Baxter's Well, Odysseus and Crawford licences was undertaken in order to prioritise areas requiring further work and to identify areas for relinquishment. The western end of the Odysseus SEL and the eastern end of Baxter's Well were highlighted as holding immediate potential for additional gold anomalism.

7. FORWARD PROGRAM

7.1 Proposed Work

Proposed work for the BCJV exploration licences will aim to upgrade existing geochemical coverage using appropriate techniques. The proposed helicopter supported surficial sampling is not only quicker and more efficient than traditional 4WD supported sampling but there are environmental benefits as well. The work program is subject to agreements being reached with the traditional owners regarding access.

Proposed work includes:

- Reconnaissance RAB drilling within **EL8771** (Baxters Well) and **SEL22042** (Odysseus) 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.
- Helicopter supported surficial sampling (soil/lag) with RAB drilling follow-up of bedrock anomalism within **SEL22042** (Odysseus) and **EL8771** (Baxters Well) .
- 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.

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APPENDIX ONE

BIBLIOGRAPHIC DATA SHEET

BIBLIOGRAPHIC DATA SHEET

REPORT NUMBER: CR: 29466

REPORT NAME: REPORT FOR THE BARROW CREEK PROJECT COVERING THE 2000 FIELD SEASON. EXPLORATION LICENCES COVERED BY THIS REPORT: EL7928 CRAWFORD, EL8771BAXTERS WELL, EL9085 SPRINGBOK AND SEL22042 ODYSSEUS. VOLUME 1 OF 1

PROSPECT NAMES: CRAWFORD, BAXTERS WELL, SPRINGBOK AND ODYSSEUS

TENEMENT NUMBERS: EL7928, EL8771, EL9085 AND SEL22042

OWNER/JV PARTNERS: NEWMONT GOLD EXPLORATION PTY LTD, NORMANDY NFM LIMITED AND YUENDUMU MINING COMPANY NL

AGREEMENTS: BARROW CREEK JOINT VENTURE (BCJV)
TANAMI-ARUNTA REGION JOINT VENTURE (TARJV)

COMMODITIES: GOLD

TECTONIC UNITS: ARUNTA INLIER

STRATIGRAPHIC UNITS: BULLION SCHIST, LEDAN SCHIST, HATCHES CREEK GROUP, BARROW CREEK GRANITIC COMPLEX, GEORGINA BASIN, AMESBURY QUARTZITE AND DULCIE SANDSTONE.

1:250,000 MAP SHEET:

BARROW CREEK	SF53-6
BONNEY WELL	SF53-2
LANDER RIVER	SF53-1

1:100,000 MAP SHEET:

JARRAH JARRAH	5556
NUMAGALONG	5656
CRAWFORD	5655
TAYLOR	5755

KEYWORDS: EXPLORATION PROPOSAL, EXPLORATION REVIEW, REHABILITATION, GEOPHYSICAL INTERPRETATION, GEOPHYSICS