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EL 9154
1997/98 ANNUAL REPORT

21/06/97 to 20/06/98

Mount Bundey (8/6-III) 1:50,000 scale and Marrakai (8/5-II) 1:50,000 scale map sheets

Title Holders:- Northern Gold N.L. and Camelot Northern Territory Limited

July 1998

Author:- N. Mottram

SUMMARY

EL 9154 is located approximately 80 kilometres south - east of Darwin and 55 kilometres north - east of Adelaide River on the Mount Bundey (8/6-III) 1:50,000 scale and the Marrakai (8/5-II) 1:50,000 scale map sheets.

The tenement consists of folded sequences of Burrell Creek Formation, Mount Bonnie Formation, Gerowie Tuff, Koolpin Formation and Wildman Siltstone along north - south trending synclinal and anticlinal fold axes. The Mount Bundey Granite and Goyder Syenite intrude these sediments in the east and south - east. These intrusives are both highly radioactive and therefore high potential uranium source rocks.

Previous exploration in the area now held as EL 9154, was completed over pre-existing tenements, including EL 142, EL 1653, EL 5346, EL 2068, SEL 8019 and EL 8044.

Northern Gold N.L. previously completed work programs based on digital data acquisition and manipulation, and regional soil sampling.

EL 9154 was granted to Northern Gold N.L. (50%) and Camelot Northern Territory Limited (50%) on the 21st of June, 1996, for a period of six years. A waiver of reduction was granted over the licence on the 7th of April, 1998, enabling 97 blocks to be retained until the 21st of June, 1999.

During the 1997/98 field season, Northern Gold N.L. carried out a work program based on DTM studies and a comprehensive literature review.

Northern Gold N.L. acquired orthographic satellite imagery to evaluate the topography of the Mount Bundey region. The data was obtained and used in conjunction with aerial mapping, site visits and previous digital data interpretations.

A comprehensive literature review, aimed at evaluating the uranium mineralisation potential within project areas held and managed by Northern Gold N.L., was completed at the Northern Territory Department of Mines and Energy, during the 1997/98 exploration season.

Additional regional soil sampling, geological mapping and rock chip sampling are required to fully determine the mineralisation potential within the tenement.

EL 9154 is contained within the Substitute Exploration Licence 10011 application, which will consolidate the licences in the Mount Bundey area.

The covenant for the 1997/98 year of tenure was $31,000, and the expenditure totaled $17,530.

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1.0 INTRODUCTION

EL 9154 is located approximately 80 kilometres south - east of Darwin and 55 kilometres north - east of Adelaide River on the Mount Bundey (8/6-III) 1:50,000 scale and the Marrakai (8/5-II) 1:50,000 scale map sheets. The licence consists of 97 blocks, 312 square kilometres in area, lying between latitudes 12°47' south and 13°00' south and longitudes 131°24' east and 131°44' east (Figure 1 and Figure 2). EL 9154 is located within Perpetual Pastoral Lease No. 1144, Mount Bundey Station, held by Barry Coulter and Lawnhold Pty. Ltd., Perpetual Pastoral Lease No. 1131, Marrakai, held by Marrakai Pastoral Company Pty. Ltd., Crown Lease (Perpetual) No. 143, held by Nellpark Pty. Ltd.,Crown Lease (Perpetual) No. 1255, held by Concorp, Crown Lease (Perpetual) No. 1466, held by Concorp, and Crown Lease (Perpetual) No. 1317, held by Norbuilt Properties Pty. Ltd.

The area is accessed via the Arnhem Highway and pastoral tracks.

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The covenant for the 1997/98 year of tenure was $31,000, and the expenditure totaled $17,530.

131°25'
131°30'
131°35'
131°40'
131°45'
12°40'
12°45'
12°50'
12°55'
13°
13°05'
13°10'
13°15'
MARRAKAI CREEK
ARNHEM HIGHWAY
EL9154
MARY RIVER
ARNHEM HIGHWAY
MCKINLAY RIVER
MARY RIVER
MARGARET RIVER
131°
132°
133°
-13°
-14°
DARWIN
JABIRU
-13°BATCHELOR
MAP REGION
ADELAIDE RIVER
PINE CREEK

NORTHERN GOLD N.L.

EL 9154
TENEMENT LOCATION DIAGRAM

Figure 1

Date 13/7/1999
Author: N Meltram
Office ADELAIDE RIVER
Drawing
Scale 1:250000
Projection: Longitude / Latitude (AGD 66)

0 2.5 5 10
kilometres

131°24' 131°26' 131°28' 131°30' 131°32' 131°34' 131°36' 131°38' 131°40' 131°42' 131°44'

12°48'

12°50'

12°52'

12°54'

12°56'

12°58'

13°

		58/39	58/40	58/11	58/12	58/13	58/14	58/15	58/16	58/17	58/18	58/19
		59/39	59/40	59/11	59/12	59/13	59/14	59/15	59/16	59/17	59/18	59/19
		60/39	60/40	60/11	60/12			60/15	60/16		60/18	60/19
61/37	61/38	61/39	61/40	61/11							61/18	61/19
			62/40	62/11							62/18	62/19
			63/40	63/11	63/12	63/13	63/14	63/15	63/16	63/17	63/18	63/19
64/37	64/38	64/39	64/40	64/11	64/12	64/13	64/14		64/16	64/17	64/18	64/19
	65/38								65/16	65/17	65/18	65/19
66/35	66/36	66/37		66/39					66/16	66/17	66/18	66/19
67/35	67/36										67/18	
											68/18	
											69/18	69/19
											70/18	70/19

										62/24	
									63/23	63/24	
64/20	64/21	64/22	64/23	64/24							
65/20	65/21	65/22	65/23	65/24							

NORTHERN GOLD N.L.

EL 9154
TENEMENT LOCATION
DIAGRAM SHOWING
BLOCK NUMBERS
Figure 2

Date 13/7/1998
Author N Mottaz
Office ADELAIDE RIVER
Drawing
Scale 1:100000
Projection: Longitude / Latitude (AGD 66)

0 1 2 4
Kilometres

2.0 GEOLOGY

2.1 Regional Geology

EL 9154 is situated within the Pine Creek Geosyncline, a tightly to isoclinally folded sequence of mainly pelitic and psammitic Lower Proterozoic sediments with interlayered tuff units. All the lithologies in the area have been metamorphosed to low, and in places, medium grade, metamorphic assemblages. For the purpose of this report, the prefix meta- is implied, but omitted from the rock names and descriptions.

The sequence has been intruded by pre-orogenic dolerite sills of the Zamu Dolerite and a large number of late syn-orogenic to post-orogenic Proterozoic granitoids. Largely undeformed Middle and Late Proterozoic, Palaeozoic and Mesozoic strata, as well as Cainozoic sediments and laterites, overly the Pine Creek Geosyncline.

2.2 Local Geology

Exploration Licence 9154 consists of folded sequences of Burrell Creek Formation, Mount Bonnie Formation, Gerowie Tuff, Koolpin Formation and Wildman Siltstone along north - south trending synclinal and anticlinal fold axes. The interbedded sequences of shale, siltstone, phyllite and greywacke of the Burrell Creek Formation crops out as low rubbly rises in the south - west of the licence (Socic, 1997).

The Mount Bundey Granite, a medium to pale-pink granite and minor adamellite, and Goyder Syenite intrude these sediments, and occur as isolated plutons in the east and south - east of the tenement area (Socic, 1997).

Wetlands from the Mary River flood plains cover the north - eastern blocks of EL 9154 (Socic, 1997).

3.0 PREVIOUS EXPLORATION

Previous exploration in the area now held as EL 9154, was completed over pre-existing tenements, including EL 1653, EL 1655, EL 5346 and EL 8044.

Exploration carried out over EL 1653 and EL 1655, which are now covered by EL 9154, was conducted by A. C. A. Howe Australia Pty. Ltd. on behalf of a joint venture agreement between Aquitaine Australia Minerals Pty. Ltd., Jimberlana Minerals N.L. and Pan D'Or Mining N.L. The exploration was aimed at assessing the potential for uranium and base metal mineralisation in the Mount Bundey region (Treasure, 1980a).

During 1980, A. C. A. Howe conducted geological surveys focusing primarily on the Koolpin Formation as well as anomalies outlined in previous programs. The fieldwork included detailed ground prospecting and backhoe trenching over established target areas, in addition to limited magnetometer and soil sampling. As a result of this program, several anomalous areas were deemed to exhibit further potential (Treasure, 1980a).

In the 1981 exploration season, the joint venture partners completed a drilling program over three target areas within EL 1653. The aim of the drilling was to define the true mineralisation potential observed in leached outcrop, and to use the information gathered to more truly assess the numerous small mineralised occurrences located in the area. The results returned from this program proved inconclusive (Treasure, 1981).

Exploration Licence 5346, which is now covered by EL 9154, was granted to Woodleigh Nominees Pty. Ltd. for a period of six years on the 23rd of October 1987. In September 1988, Woodleigh Nominees signed an agreement with Carpentaria Gold Pty. Ltd., granting them sole exploration rights in the part of EL 5346 lying north of latitude 13° south. In December 1988, Woodleigh Nominees transferred all of EL 5346 to Carpentaria Gold Pty. Ltd. (Hitchman, 1991).

Initial and follow up reconnaissance surveys consisted of stream sediment sampling and rock chip sampling areas of auriferous potential. An aeromagnetic survey was flown in the north of the tenement (Hitchman, 1991).

The initial stream sediment sampling indicated several Au anomalies, however, follow up re - sampling of anomalous creeks in the area led to contradictory results. Rock chip sampling of the white quartz vein - breccias present in the region were assayed for Au and base metals but were found to be barren (Hitchman, 1991).

Dominion Mining Ltd. held five of the south western blocks of EL 9154 as EL 8044. During the 1993/94 exploration season the work carried out included

gridding, geophysical interpretations and LAG geochemical sampling (Backo, 1994).

In 1988, Dominion Mining Ltd. acquired Aerodata multiclient data. Continued interpretation of this data was used to identify favourable lithological and structural settings for Au mineralisation (Backo, 1994).

During 1993/94, Andre Lebel, a geophysicist, re - interpreted the regional geophysics of the Pine Creek Inlier, instigated by recent new finds of gold mineralisation in the province. This re - interpretation covered the Rustlers Roost West area, and was conducted by highlighting trends using the Aerodata enhancement and colour contours to derive the polarity of magnetic anomalies (Backo, 1994).

Dominion Mining Ltd. also completed a LAG geochemical sampling program over EL 8044 to test the prospectivity of the area. A total of 117 samples were collected. The LAG samples were collected every 200 metres over five 800 metres spaced lines and seived to a +2 millimetre - 6 millimetre size fraction (Backo, 1994).

All samples were sent to Amdel, in Darwin, and analysed for Au, As, Cu, Pb, Zn, Ni, Fe and Mn. Results returned were generally disappointing, with the highest gold value recorded being 4 ppb (Backo, 1994).

During the 1996/97 field season Northern Gold N.L. carried out a work program based on digital data studies and regional soil sampling.

Northern Gold N.L. completed a work program based on digital data acquisition and manipulation. Landsat Imagery, SPOT Imagery and AGSO mapping were obtained and used in conjunction with aerial mapping to determine the best method of exploration to be used on the licence (Socic, 1997).

GIS and satellite imagery were used to log soil types and to interpret the structural geology of the region (Socic, 1997).

Northern Gold N.L. also completed a regional soil sampling program over three blocks in the south - west of the tenement, during the 1996/97 year of tenure. A total of 251 samples, including duplicates, were collected and submitted to Assaycorp for Au, As, Cu, Zn, and Pb analysis (Socic, 1997).

The results from the regional soil sampling over the two south - western most blocks outlined a low order gold and arsenic anomaly associated with stockwork quartz veining within the Burrell Creek Formation, north - west from the Williams gold prospect. The maximum coincident values of 9 ppb Au and 10 ppm As were returned (Socic, 1997).

The soil sampling completed over the other block in the south - west of EL 9154, identified a south trending anomaly with peak coincident values of 15 ppb Au and 45 ppm As (Socic, 1997).

4.0 1997/98 EXPLORATION COMPLETED

During the 1997/98 field season, Northern Gold N.L. carried out a work program based on DTM studies and a comprehensive literature review.

4.1 DTM Studies

During the 1997/98 exploration season Northern Gold N.L. completed a work program involving digital data acquisition and manipulation, and digital terrain modelling. The data was obtained and used in conjunction with aerial mapping, site visits and previous digital data interpretations.

Northern Gold N.L. acquired orthographic satellite imagery to evaluate the topography of the Mount Bundey region (Figure 3). A contour map was compiled using this imagery, showing the slope vectors of the terrain, indicating possible dispersion directions of mobile elements (Figure 4).

4.2 Uranium Review

A comprehensive literature review, aimed at evaluating the uranium mineralisation potential within project areas held and managed by Northern Gold N.L., was completed at the Northern Territory Department of Mines and Energy, during the 1997/98 exploration season.

The review covered the known uranium deposits, depositional models within the Pine Creek Geosyncline, and previous exploration within the project areas, with the aim of farming out the ground to potential explorers.

Exploration for uranium within the Mount Bundey area was focused primarily within the Koolpin Formation, Mount Bonnie Formation, Golden Dyke Formation and the Burrell Creek Formation, which was the host for fracture fill type mineralisation in the Adelaide River region.

Studies indicated that the Mount Bundey area contains structural and geological components favourable for uranium mineralisation. This was supported by the number of radiometric and magnetic anomalies previously defined within the project area, many of which were not followed up by active uranium ground reconnaissance, due to the shear extent of anomalism within the region.

EL 9154 is contained within the Mount Bundey Project Area.

The uranium exploration within EL 9154 was completed by Geopeko Limited, over EL 142, Aquitaine Australia Minerals Pty. Ltd., over EL 1653, Pan D'Or Mining, over EL 2068, and Poseidon Exploration Limited, over SEL 8019.

760000 mE
764000 mE
768000 mE
772000 mE
776000 mE
780000 mE
784000 mE
788000 mE
792000 mE
796000 mE

8584000 mN
8580000 mN
8576000 mN
8572000 mN
8568000 mN
8564000 mN
8560000 mN

NORTHERN GOLD N L

EL 9154
ORTHOGRAPHIC SATELLITE
IMAGE MAP

Figure 3

760000 mE
764000 mE
768000 mE
772000 mE
776000 mE
780000 mE
784000 mE
788000 mE
792000 mE
796000 mE

8584000 mN
8580000 mN
8576000 mN
8572000 mN
8568000 mN
8564000 mN

NORTHERN GOLD N.L.

EL 9154
CONTOUR MAP
SHOWING SLOPE
VECTORS
Figure 4

Date: 3/7/1998
Author: N.Mortram
Office: ADELAIDE RIVER
Drawing:
Scale: 1:100000
Projection: AMG Zone 52 (AGD 66)

0 1 2 4
kilometres

Geopeko Limited identified anomalous regions within the current EL 9154, using airborne geophysical surveys. A rock chip collected from Quest 42, located in the south-east of the licence, returned values of 96 ppm U, 2,200 ppm Cu and 2,100 ppm Zn (Twist, 1974). Costean excavation and channel sampling carried out over Quest 44, also located in the south-east of EL 9154, returned results of 200 ppm U, 650 ppm Cu, 0.37% Pb and 1,800 ppm Zn (Twist, 1975). Auger-core drilling, completed over Quest 39, in the north-west of the current tenement, returned an anomalous uranium result of 226 ppm U (Twist, 1975).

Aquitaine Australia Minerals Pty. Ltd. obtained an anomalous channel sample result of 111 ppm U from Anomaly 9, located within the south-east of the licence (Treasure, 1980a).

Pan D'Or Mining (Treasure, 1980b) and Poseidon Exploration Limited (Manning, 1994) identified numerous radiometric and magnetic anomalies within EL 9154.

5.0 1997/98 EXPENDITURE

Expenditure over EL 9154, during the 1997/98 year of tenure, totaled $17,530. Details of this expenditure are listed below as Table 1.

Table 1 **EL 9154 1997/98 Expenditure**

COSTS	AMOUNT
Report Compilation	300
Data Review	545
Tenement Management	390
Consumables	305
Motor Vehicle Expenses and Fuel	280
Stationary and Office Expenses	105
Report and Plan Preparation	180
Drafting and Computing	400
Satellite Imagery & Manipulation	1,525
DTM Manipulation	2,155
Casual Wages	7,650
Salaries	1,410
Subtotal	**15,245**
Administration @ 15%	2,285
TOTAL	**$17,530**

6.0 1998/99 PROPOSED WORK PROGRAM

The proposed work program for the 1998/99 year of tenure will include regional soil sampling, rock chip sampling, geological mapping and assaying.

The regional soil sampling will be completed over the central and western blocks of the licence, targeting anomalous stream sediment sampling gold results obtained by Carpentaria Gold Pty. Ltd., between Tom's Gully and Rustlers Roost. The soil sampling programs are proposed over block numbers 63/11, 63/12, 63/13, 63/14, 63/15, 63/40, 64/11, 64/12, 64/13, 64/14, 64/37, 64/38, 64/39, 64/40 and 65/38 (Refer to Figure 2).

Rock chip sampling, carried out inconjunction with geological mapping, is proposed within the central region of EL 9154. The block numbers which will be covered are 63/11, 63/12, 63/13, 63/14, 64/11, 64/12, 64/13 and 64/14 (Refer to Figure 2).

An estimation of the cost of these programs is listed in Table 2.

Table 2 **EL 9154 1998/99 Proposed Work Program**

COSTS	AMOUNT
Regional Soil Sampling	12,000
Rock Chip Sampling	800
Geological Mapping	1,000
Assaying	8,000
Salaries and Wages	5,000
TOTAL	**$26,800**

7.0 REFERENCES

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