



Northern Gold NL

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EL 9588

2000/01 ANNUAL REPORT

10/12/00 to 09/12/01

Fenton (14/5-I) 1:50,000 scale map sheet

Title Holder:- Northern Gold N.L.

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SUMMARY

EL 9588 is located approximately 130 kilometres south southeast of Darwin on the Fenton (14/5-l) 1:50,000 scale map sheet.

The tenement is situated over a northwest to southeast trending synclinal structure. Where outcrop occurs the lithologies form low rubbly ridges which predominantly comprises a sequence of alternating schist and quartz rich sediment. These lithologies are interpreted to be part of the Burrell Creek Formation.

Dominion Gold Operations Pty. Ltd. held the eastern block of EL 9588 as EL 7355. They completed aerial mapping, geophysics and stream sediment sampling over the tenement. Northern Gold N.L. carried out digital data studies, rock chip sampling and soil sampling programs over EL 9588.

EL 9588 was granted to Northern Gold N.L. on the 10th of December, 1996, for a period of six years. Compulsory reductions were waived in November 1998, December 1999, November 2000 and November 2001, enabling 2 blocks to be retained until the 9th of December, 2002.

During the 2000/01 exploration season, Northern Gold N.L. conducted rock chip sampling and infill soil sampling programs over EL 9588.

Rock chip samples were collected from selected outcrop within the southwest of the licence. A total of 25, two to four kilogram, samples were submitted to North Australian Laboratories Pty. Ltd., in Pine Creek, for analysis of Au and As. The results from the rock chip sampling program were generally disappointing, with a peak value of 0.65 ppm Au returned.

The infill soil sampling program was completed within the west and southwest of the licence, targeting previously defined gold anomalism. Samples, consisting of approximately 4 kilograms of soil, sieved to a -5 millimetre size fraction, were collected. A total of 25, B-horizon, soil samples were submitted to North Australian Laboratories Pty. Ltd., in Pine Creek, for analysis of Au and As. The peak results returned were 24 ppb Au, 28 ppb Au and 38 ppb Au.

Further soil sampling, rock chip sampling and geological mapping programs are required to assess the mineralisation potential of the licence.

The covenant for the 2000/01 year of tenure was \$5,600 and the expenditure totalled \$7,175.

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1.0 INTRODUCTION

EL 9588 is located approximately 130 kilometres south southeast of Darwin on the Fenton (14/5-l) 1:50,000 scale map sheet. The licence, which consists of 2 blocks, 6 square kilometres in area, lies between latitudes 13°31' south and 13°32' south and longitudes 131°19' east and 131°21' east (Figure 1). EL 9588 is situated within Pastoral Lease No. 903, Douglas, held by Tovehead Pty. Ltd.

Access is via the Old Stuart Highway (Dorat Road), which passes through the south of the licence.

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During the 2000/01 exploration season, Northern Gold N.L. conducted rock chip sampling and infill soil sampling programs over EL 9588.

Rock chip samples were collected from selected outcrop within the southwest of the licence. A total of 25, two to four kilogram, samples were submitted to North Australian Laboratories Pty. Ltd., in Pine Creek, for analysis of Au and As.

The infill soil sampling program was completed within the west and southwest of the licence, targeting previously defined gold anomalism. Samples, consisting of approximately 4 kilograms of soil, sieved to a -5 millimetre size fraction, were collected. A total of 25, B-horizon, soil samples were submitted to North Australian Laboratories Pty. Ltd., in Pine Creek, for analysis of Au and As.

The covenant for the 2000/01 year of tenure was \$5,600 and the expenditure totalled \$7,175.

Figure 1 Tenement Location Diagram

2.0 GEOLOGY

2.1 Regional Geology

EL 9588 is situated within the Pine Creek Geosyncline, a tightly to isoclinally folded sequence of mainly pelitic and psammitic (continental to shallow water) Lower Proterozoic sediments with interlayered tuff units. All the lithologies in the area have been metamorphosed mostly to low and in places medium grade metamorphic assemblages. For the purposes of this report the prefix "meta" is implied, but omitted, from rock names and descriptions (Socic, 1997).

The sequence has been intruded by pre-orogenic dolerite sills and a 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 laterite overlie the Pine Creek Geosyncline lithologies (Socic, 1997).

2.2 Local Geology

EL 9588 is located over a northwest to southeast trending synclinal structure (Socic, 1997). Where outcrop occurs, the lithologies form low rubbly ridges which predominantly comprises a sequence of alternating schist and quartz rich sediment. The schist is comprised of mica and quartz with minor garnet, and in places also contains andalusite. The quartz rich sediment is predominantly recrystallised sandstone with some chert, shale, siltstone and minor greywacke. These lithologies are interpreted to be part of the Burrell Creek Formation (Socic, 1997). In the east and west of the tenement, Mount Bonnie Formation sediments subcrop (Figure 2).

Figure 2 Local Geology

3.0 PREVIOUS EXPLORATION

Dominion Gold Operations Pty. Ltd. held the eastern block of EL 9588 as EL 7355. They completed aerial mapping, geophysics and stream sediment sampling over the tenement.

During April 1991, Airesearch Mapping of Darwin flew the Shoobridge - Fenton tenements held by Dominion and produced sets of 1:25,000 scale colour air photographs (Burn, 1993). The aerial photo run which covered EL 7355 was AM521 Run 7, (No. 099 - 101).

Acquisition of Aerodata (1987 - 88) airborne multicient data, by Dominion Gold Operations Pty. Ltd., was completed in late 1988. The interpretation of this data was used to identify favourable lithological/structural settings for Au mineralisation. A further airborne magnetic/radiometric survey was completed by Aerodata (October 1992) for Dominion, covering the area south and south - west of Cosmo Howley (Burn, 1993).

Dominion Gold Operations Pty. Ltd. also conducted stream sediment sampling within EL 7355. Stream sediment samples were collected from selected sites within drainages averaging 4 square kilometres. Two sample sizes, -20# silt fraction and a pan concentrate, were collected from each site. A total of four samples were collected from within the tenement and submitted for Au, Cu, Pb, Zn, Mn, Fe, As, Ni, U and Th analysis. Results from the stream sediment sampling, presented in Appendix 1 of Burn, 1993, returned peak results of 6 ppb Au, 110 ppm As, 70 ppm Cu, 16 ppm Pb and 65 ppm Zn.

During the 1996/97 year of tenure, Northern Gold N.L. completed a regional soil sampling program, based on digital data interpretation, over EL 9588.

Northern Gold completed a work program based on the acquisition and manipulation of digital data. Landsat Imagery, SPOT Imagery and AGSO mapping obtained used in conjunction with aerial mapping to determine the best method of exploration to be used on the licence. 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, targeting major structural discontinuities along strike from known mineralisation areas. The regional soil sampling was completed over four, 400 metre spaced lines, with samples collected every 25 metres and composited to 100 metres. A total of 96 soil samples, including duplicates, were collected and submitted to Assaycorp, in Pine Creek, for Au, Ag and As analysis. The results from the sampling program were disappointing, with peak Au values of 3.0 and 2.7 ppb, over yellow sandy and red soils (Socic, 1997).

Northern Gold N.L. conducted regional soil sampling and rock chip sampling over EL 9588, during the 1997/98 exploration season.

The soil samples were collected at 50 metre intervals and composited to 100 metres, along four lines. Three spot samples were collected from the north-eastern corner of the licence. A total of 33, -5#, B-horizon, soil samples, including duplicates, were collected and submitted to Assaycorp, in Pine Creek, for analysis of Au, Ag, As, Cu, Pb and Zn. The peak results returned were 13 ppb Au (Sample No. 190644, 8504300N : 754300E) and 6.4 ppb Au (Sample No. 190660, 8503100N : 750900E). This work is reported in Mottram, 1998.

A total of 41, 2 kilogram, rock chip samples were collected from outcrop within the licence and submitted to Assaycorp, in Pine Creek, for analysis of Au, Ag, As, Cu, Pb and Zn. The results were disappointing, with a peak result of 0.11 ppm Au (Sample No. 190635, 8504300N : 754300E) being returned (Mottram, 1998).

During the 1998/99 field season, Northern Gold N.L. contracted Arnhem Exploration Services to complete a regional soil sampling program over EL 9588, targeting extensions to previously identified low grade BLEG Au anomalies (Mottram, 1999).

Samples were collected at 100 metre intervals, along two, 400 metre spaced lines in the east, and two, 800 metre spaced lines in the west. A total of 48, B-horizon, soil samples, including duplicates, were submitted to Assaycorp, in Pine Creek, for analysis of Au and Ag, using BLEG method, and As, Cu, Zn, and Pb, using G400I method (Mottram, 1999).

Results from the soil sampling were disappointing, failing to increase the length, width or tenor of the previously defined soil anomalies. The peak results returned were 2.7 ppb Au (Sample No. 191425, 8504105N : 753800E), from the east of the tenement, and 2.1 ppb Au (Sample No. 191405, 8503507N : 751000E), from the western area (Mottram, 1999).

Northern Gold N.L. contracted Arnhem Exploration Services to complete an infill soil sampling program over both blocks EL 9588, during the 1999/2000 exploration season.

Samples, consisting of approximately 4 kilograms of soil, sieved to a -5 millimetre size fraction, were collected at 25 metre intervals and composited to 100 metres along three, 400 metre spaced lines, within the western block, and four, 200 metre spaced lines in the east. A total of 71, B-horizon, soil samples, including duplicates, were submitted to Assaycorp, in Pine Creek, for analysis of Au and Ag, using BLEG method, and Ag, As, Cu, Zn, and Pb, using G400M method (Mottram, 2001).

The soil sampling program outlined a low tenor gold anomaly within the eastern block of the licence. The peak results returned were 6.7 ppb Au (Sample No. 182362, 8503286N : 754096E), and 4 ppb Au (Sample No. 182375, 8503087N : 754194E). This work is reported in Mottram, 2001.

4.0 2000/01 EXPLORATION COMPLETED

During the 2000/01 exploration season, Northern Gold N.L. conducted rock chip sampling and infill soil sampling programs over EL 9588.

4.1 Rock Chip Sampling Program

Rock chip samples were collected from selected outcrop within the southwest of the licence. A total of 25, two to four kilogram, samples (Sample Nos. GWR001 - GWR025) were submitted to North Australian Laboratories Pty. Ltd., in Pine Creek, for analysis of Au and As. The analytical methods and detection limits are listed below in Table 1. Descriptions of the rock chips are given in Appendix 1. The rock chip sampling program locations are presented in Appendix 2 and shown on plan in Figure 3.

Table 1 Rock Chip Sampling Program Analytical Methods and Detection Limits

Element	Analytical Method	Digest	Technique	Detection Limit	Units
Au	FA50	FA	AAS	0.01	ppm
Au(R)	FA50	FA	AAS	0.01	ppm
As	G400M	MA4	ICP-MS	55	ppm

The results from the rock chip sampling program were generally disappointing, with a peak value of 0.65 ppm Au (Sample No. GWR004, 8503097N : 751075E) returned. The assay results are presented in Appendix 2.

4.2 Infill Soil Sampling Program

The infill soil sampling program was completed within the west and southwest of the licence, targeting previously defined gold anomalism.

Samples, consisting of approximately 4 kilograms of soil, sieved to a -5 millimetre size fraction, were collected within the western block of the licence. A total of 25, B-horizon, soil samples (Sample Nos. GWSL001 - GWSL025) were submitted to North Australian Laboratories Pty. Ltd., in Pine Creek, for analysis of Au and As. The analytical methods and detection limits are listed in Table 2. The sample locations are shown on plan in Figure 4 and presented in Appendix 3.

Figure 3 EL 9588 2000/01 Rock Chip Sampling Program Location Plan

Figure 4 EL 9588 2000/01 Infill Soil Sampling Program Location Plan

Table 2 Infill Soil Sampling Program Analytical Methods and Detection Limits

Element	Analytical Method	Digest	Technique	Detection Limit	Units
Au	FALL	FA	AAS	1	ppb
Au(R)	FALL	FA	AAS	1	ppb
As	G400M	MA4	ICP-MS	0.5	ppm

The peak results returned were 24 ppb Au (Sample No. GWSL025, 8502916N : 751149E), 28 ppb Au (Sample No. GWSL024, 8502960N : 750692E) and 38 ppb Au (Sample No. GWSL021, 8502965N : 750908E). The assay results from the soil sampling program are presented in Appendix 3.

5.0 2000/01 EXPENDITURE

The expenditure over EL 9588, during the 2000/01 year of tenure, totalled \$7,175. Details of this expenditure are listed below in Table 3.

Table 3 EL 9588 2000/01 Expenditure

<u>COSTS</u>	<u>AMOUNT</u>
Report and Plan Preparation	200
Tenement Management	210
Data Review	85
Assays	535
Consumables	295
Motor Vehicle Expenses and Fuel	555
Casual Wages	1,800
Salaries	2,300
Subtotal	5,980
Administration @ 20%	1,195
TOTAL	<u>\$7,175</u>

6.0 2001/02 PROPOSED WORK PROGRAM

The proposed exploration programs for the 2000/01 year of tenure will include further soil sampling, rock chip sampling and geological mapping, to aid in identifying the source of the low tenor soil anomalism.

An estimation of the cost of these programs is given below as Table 4.

Table 4 EL 9588 2001/02 Proposed Work Program

<u>COSTS</u>	<u>AMOUNT</u>
Soil Sampling	1,400
Rock Chip Sampling	400
Geological Mapping	500
Assaying	1,400
Data Processing	300
Salaries and Wages	1,200
TOTAL	<u>\$5,300</u>

7.0 REFERENCES

BURN, N., (1993). EL 7355 - Western Howley, Annual and Final Report to 4 April 1993. Unpublished report by Dominion Gold Operations Pty. Ltd. for the NTDME.

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APPENDIX 1

2000/01 Rock Chip Sampling Program Locations and Descriptions

APPENDIX 2

2000/01 Rock Chip Sampling Program Locations and Assay Results

APPENDIX 3

2000/01 Infill Soil Sampling Program Locations and Assay Results

EL 9588
2000/01 Annual Report

3.5" Disk

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