



Northern Gold NL

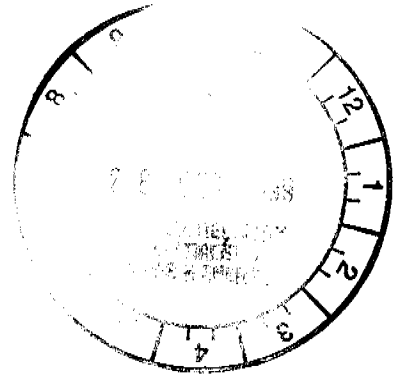
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EL 8243 1998/99 ANNUAL REPORT

18/10/98 to 17/10/99

Mount Bunday (8/6-III) 1:50,000 scale and Mount
Ringwood (14/3-IV) 1:50,000 scale map sheets

Title Holders:- Territory Goldfields N.L.
Managed by:- Northern Gold N.L.



October 1999

Distribution

NTDME

Northern Gold N.L., Adelaide River

Northern Gold N.L., Perth Office

Compiled by:-

N. Mottram

Essential Data Services, W.A.

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SUMMARY

EL 8243 is located 95 kilometres south - east of Darwin and 55 kilometres north - east of Adelaide River, on the Mount Bunday (8/6-III) 1:50,000 scale map sheet and the Mount Ringwood (14/3-IV) 1:50,000 scale map sheet.

Dominion Gold Operations Pty. Ltd. carried out gridding, soil sampling, rock chip sampling, LAG sampling and RAB drilling over EL 8243 from 1993 to 1995. The results obtained from all programs were generally low.

Northern Gold N.L. has completed work programs based on digital data studies, regional soil sampling, MMI geochemical soil sampling and rock chip sampling. Landsat Imagery, SPOT Imagery and AGSO mapping were obtained and used in conjunction with aerial mapping and site visits to determine the best method of gold exploration to be used on the licence. The regional soil sampling program, consisting of the collection of 526 samples, returned disappointing results. A total of 417 MMI geochemical soil samples were also collected. The highest result returned was 1.35 ppb Au. Twenty five rock chip samples were also collected, returning a single spot result of 115 ppb Au.

EL 8243, originally consisting of 11 blocks, 35 square kilometres in area, was granted to Dominion Gold Operations Pty. Ltd. on the 18th of October, 1993, for a period of six years. Territory Goldfields N.L., which is now managed by Northern Gold N.L., acquired the tenement in May 1995. The tenement was reduced to 6 blocks, 19 square kilometres in size, in November, 1995. Waivers of reduction were granted over EL 8243 in January 1997, January 1998, and again in October 1998, enabling the licence to remain at 6 blocks until the 18th of October, 1999. In July, 1999, Northern Gold N.L. submitted a renewal application over EL 8243.

During the 1998/99 exploration season, Northern Gold N.L. contracted Arnhem Exploration Services to complete an infill soil sampling program over EL 8243. Samples were collected at 50 metre intervals along four, 200 metre spaced lines, over the northern blocks of the tenement. A total of 72, 'B' horizon samples, including duplicates, were submitted to Assaycorp, in Pine Creek, for analysis of Au, Ag, As, Cu, Pb and Zn.

The peak results returned were 120 ppb Au (Repeat analysis, Sample No. 192934, 8568230N : 776600E), 124 ppm As and 82 ppm Pb (Sample No. 192935, 8568230N : 776650E).

Further infill soil sampling, rock chip sampling, assaying and geological mapping are required to outline the source of the gold anomalism within the northern blocks of the licence.

The covenant for the 1998/99 year of tenure was \$5,350 and the expenditure totalled \$6,300.

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1.0 INTRODUCTION

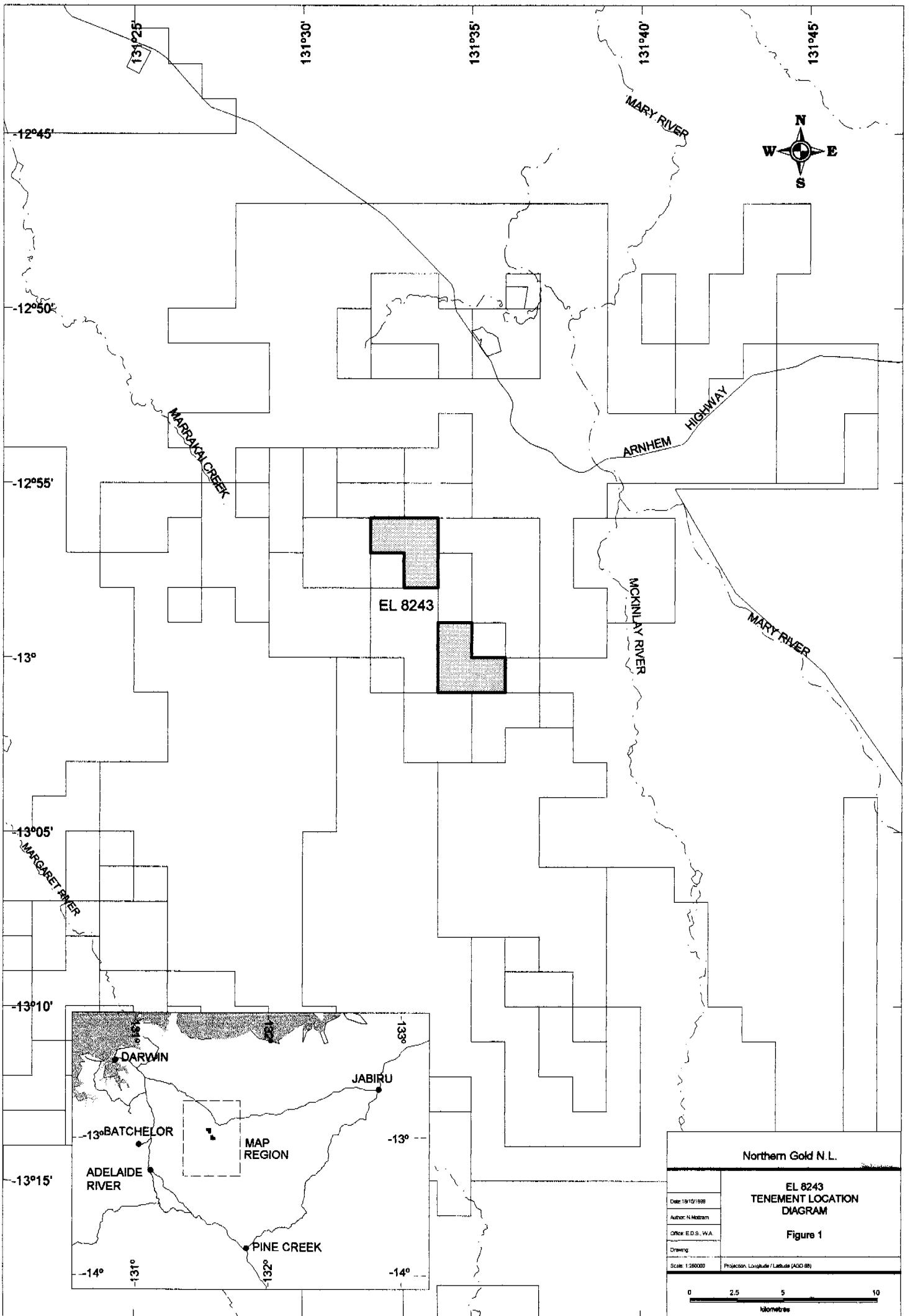
EL 8243 is located approximately 95 kilometres south - east of Darwin and 55 kilometres north - east of Adelaide River on the Mount Bunday (8/6-III) 1:50,000 scale map sheet and the Mount Ringwood (14/3-IV) scale map sheet. The licence consists of 6 graticular blocks, 19 square kilometres in area, lying between latitudes 12°56' south and 13°01' south and longitudes 131°32' east and 131°36' east (Figure 1). EL 8243 is situated within Perpetual Pastoral Lease No. 1144, held by B. F. Coulter and Lawnhold Pty. Ltd.

The area is accessed by pastoral tracks leading off the Arnhem Highway near the Mary River, or via the Rustlers Roost Gold Project.

EL 8243, originally consisting of 11 blocks, 35 square kilometres in area, was granted to Dominion Gold Operations Pty. Ltd. on the 18th of October, 1993, for a period of six years. Territory Goldfields N.L., which is now managed by Northern Gold N.L., acquired the tenement in May, 1995. The tenement was reduced to 6 blocks, 19 square kilometres in size, in November, 1995. Waivers of reduction were granted over EL 8243 in January 1997, January 1998, and again in October 1998, enabling the licence to remain at 6 blocks until the 18th of October, 1999. In July, 1999, Northern Gold N.L. submitted a renewal application over EL 8243.

During the 1998/99 exploration season, Northern Gold N.L. contracted Arnhem Exploration Services to complete an infill soil sampling program over EL 8243. Samples were collected at 50 metre intervals along four, 200 metre spaced lines, over the northern blocks of the tenement. A total of 72, 'B' horizon samples, including duplicates, were submitted to Assaycorp, in Pine Creek, for analysis of Au, Ag, As, Cu, Pb and Zn.

The covenant for the 1998/99 year of tenure was \$5,350 and the expenditure totalled \$6,300.



Northern Gold N.L.	
EL 8243 TENEMENT LOCATION DIAGRAM	
Figure 1	
Date: 19/10/1998	Projection: Longitude / Latitude (AGD 85)
Author: N. Moxham	
Office: E.D.S., WA	
Drawing:	
Scale: 1:20000	

2.0 GEOLOGY

2.1 Regional Geology

EL 8243 is situated within the Pine Creek Geosyncline, a tight to isoclinally folded sequence of mainly pelitic and psammitic Lower Proterozoic with interlayered tuff units. All rocks in the area have been metamorphosed to low, and in places medium grade, metamorphic assemblages. For the purposes of this report the prefix "meta" is implied, but omitted from the rock names and descriptions (Socic, 1997).

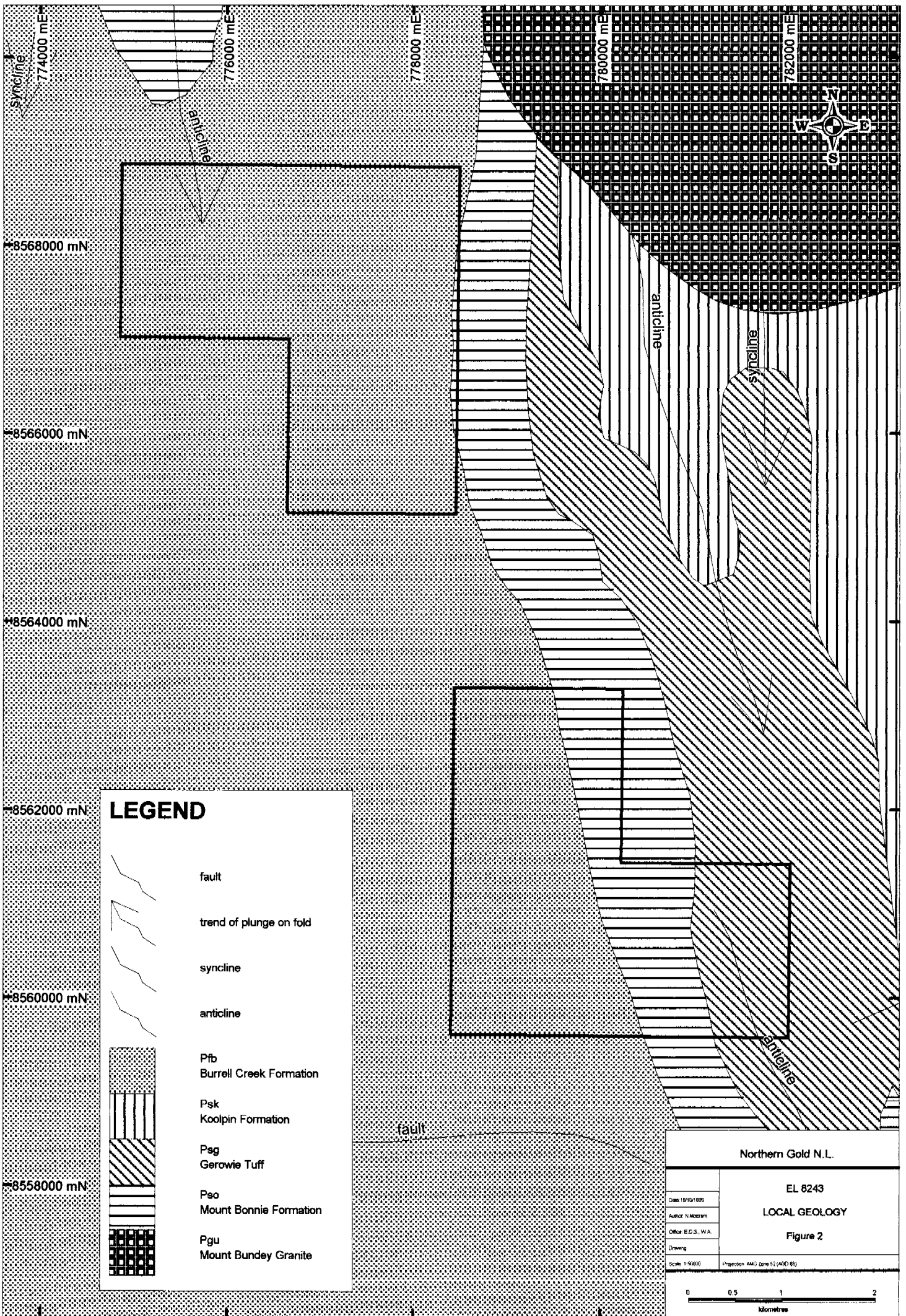
The sequence has been intruded by pre-orogenic sills of the Zamu Dolerite and a number of late syn-orogenic to post-orogenic Proterozoic granitoids. Largely undeformed Middle and Late Proterozoic, Palaeozoic and Mesozoic strata as well as Cainozoic sediments and laterite overlie the Pine Creek Geosyncline rocks (Socic, 1997).

2.2 Local Geology










EL 8243 consists predominantly of sediments of the Burrell Creek Formation (Figure 2).

To the east the exploration licence is characterised by outcrop associated with the Mount Bundey Granite, Mount Bonnie Formation, Gerowie Tuff and Koolpin Formation. The sediments trend south to southeast along synclinal and anticlinal fold axes (Socic, 1997).

The Mount Bundey Granite intrudes the sediments to the northeast of the tenement (Socic, 1997).



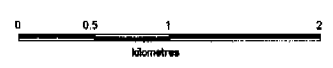
LEGEND

-  fault
-  trend of plunge on fold
-  syncline
-  anticline
-  Pfb
Burrell Creek Formation
-  Psk
Koolpin Formation
-  Psg
Gerowie Tuff
-  Pso
Mount Bonnie Formation
-  Pgu
Mount Bunday Granite

Northern Gold N.L.

EL 8243
LOCAL GEOLOGY
Figure 2

Date: 18/12/88	
Author: N. Mooren	
Office: E.D.S., W.A.	
Drawing:	
Scale: 1:5000	Projection: AMG Zone 52 (400 85)



3.0 PREVIOUS EXPLORATION

Carpentaria Gold carried out exploration for gold over a large tract of land reaching from the Kakadu Highway to south of Eckerbone Waterhole, and east and west of the Mount Bundey Granite. Initial work comprised a program of regional stream sediment sampling for gold and base metal analysis followed by reconnaissance rock chip exercises over areas of interest (Fawcett, 1995).

Prior to this the ground had been explored by Geopeko in the early seventies, who had then already defined the Quest group of prospects, including Pinnacle and Kakadu Resources' Quest 29 just to the east of EL 8243 (Fawcett, 1995).

In the 1993/94 field season, Dominion Gold Operations Pty. Ltd. carried out gridding, soil sampling and RAB drilling. Results were relatively low, however several areas were highlighted for follow-up (Morrison, 1994).

During the 1994/95 exploration season, Dominion Gold Operations Pty. Ltd. carried out RAB drilling, rock chip sampling and LAG sampling (Fawcett, 1995).

The RAB drilling resulted in 90 holes for 412 metres. Holes were drilled to depths of up to 15 metres, with an average hole depth of 4.5 metres. A single 2 kilogram sample from the base of each hole was collected and submitted to Amdel, Darwin for analysis of Au, As, Cu, Pb, Zn, Ag, Fe, Mn and Bi (Fawcett, 1995). The results obtained were generally low with a peak response of 17 ppb returned from sample number G40291 (Hole No. 94RRVR283, 8556100N : 781820E).

Six rock chip samples of quartz stockworked greywacke with haematite were collected from the central part of EL 8243. Samples were submitted to Amdel, Darwin for analysis of Au and As. The results returned anomalous values of 0.15 ppm Au and 0.21 ppm Au, with corresponding As values of 270 ppm and 330 ppm respectively (Fawcett, 1995).

Dominion Gold Operations Pty. Ltd. collected three LAG samples from EL 8243. Samples were collected to +2 millimetre, -7 millimetre size fraction and submitted to Amdel for analysis of Au, As, Cu, Pb, Zn, Ag, Fe, Mn and Bi. The results returned were disappointing with no anomalous results obtained (Fawcett, 1995).

During the 1995/96 field season Northern Gold N.L. carried out a work program based on digital data studies and a regional soil sampling program (Socic, 1996).

Landsat Imagery, SPOT Imagery and AGSO mapping were obtained and used in conjunction with aerial mapping and site visits to determine the best method of gold exploration to be used on the licence (Socic, 1996).

GIS and satellite imagery were used to log soil types and to interpret the structural geology of the region.

Northern Gold N.L. also completed a regional soil sampling program over EL 8243, during the 1995/96 exploration season. The regional soil sampling program was conducted over eighteen lines, ranging in length from 1,700 metres to 3,600 metres, with a line spacing of 400 metres. Samples were collected at 25 metre intervals and composited to 100 metres. A total of 526 samples, including duplicates, were collected and submitted to Assaycorp, in Pine Creek, for Au, As, Pb, Cu and Zn analysis (Socic, 1996).

The soil sampling identified a weak north north - west trending gold soil anomaly in the southern blocks of the tenement with a maximum Au value of 4.7 ppb and corresponding As value of 4 ppm. The soil sampling also identified a weak base metal anomaly with assay values to 18 ppm Cu, 38 ppm Pb and 76 ppm Zn, in the centre of the southern tenement area. A second weak base metal anomaly was also identified on the south - western corner of the southern blocks, with maximum values 88 ppm Cu, 132 ppm Pb and 52 ppm Zn (Socic, 1996).

Results from soil sampling in the northern blocks of the tenement returned a low order, south trending, soil anomaly with a peak spot value of 8.7 ppb Au (Sample No. 146780, 8567827N : 776608E), and minor associated anomalous values of arsenic and base metals to 9 ppm As, 18 ppm Cu, 17 ppm Pb, and 13 ppm Zn. This anomaly is located in the hinge zone of a south trending anticline fold structure. A slightly stronger base metal anomaly was identified to the west, and returned maximum values of 188 ppm Cu, 138 ppm Pb, and 76 ppm Zn (Socic, 1996).

During the 1996/97 exploration season, Northern Gold completed an infill MMI soil sampling program, targeting the previously identified regional gold/base metal soil anomaly. A total of 417 samples, including duplicates, were collected and submitted to AMDEL for WAMTECH partial digest A (Cu, Pb, Zn and Cd), and WAMTECH partial digest B (Au, Ag, Co, Ni and Pd) analysis. The highest result returned was 1.35 ppb Au. The MMI soil sampling reproduced previously identified base metal anomalies (Socic, 1997).

Northern Gold N.L. completed a rock chip sampling program, in conjunction with geological mapping, targeting the large low level MMI geochemical anomaly generated in November, 1996, during the 1997/98 field season. A total of 25 rock chip samples, including duplicates, were collected from outcrop and submitted to Assaycorp, in Pine Creek, for analysis of Au using FALL method, As, by G300H technique, and Ag, Cu, Pb and Zn using G300I method Mottram, 1998).

A single spot result of 115 ppb Au (Sample No. 189201, 8560000N : 781188E) was returned (Mottram, 1998).

4.0 1998/99 EXPLORATION COMPLETED

4.1 Infill Soil Sampling Program

During the 1998/99 exploration season, Northern Gold N.L. contracted Arnhem Exploration Services to complete an infill soil sampling program over EL 8243, targeting a regional BLEG gold anomaly generated in October, 1996. Samples were collected at 50 metre intervals along four, 200 metre spaced lines, over the northern blocks of the tenement. A total of 72, 'B' horizon samples (Sample Nos. 192923 – 192994), including duplicates, were submitted to Assaycorp, in Pine Creek, for analysis of Au, Ag, As, Cu, Pb and Zn. The analytical methods and detection limits are listed in Table 1. The infill soil sampling program locations are presented in Appendix 1 and shown on plan in Figure 3.

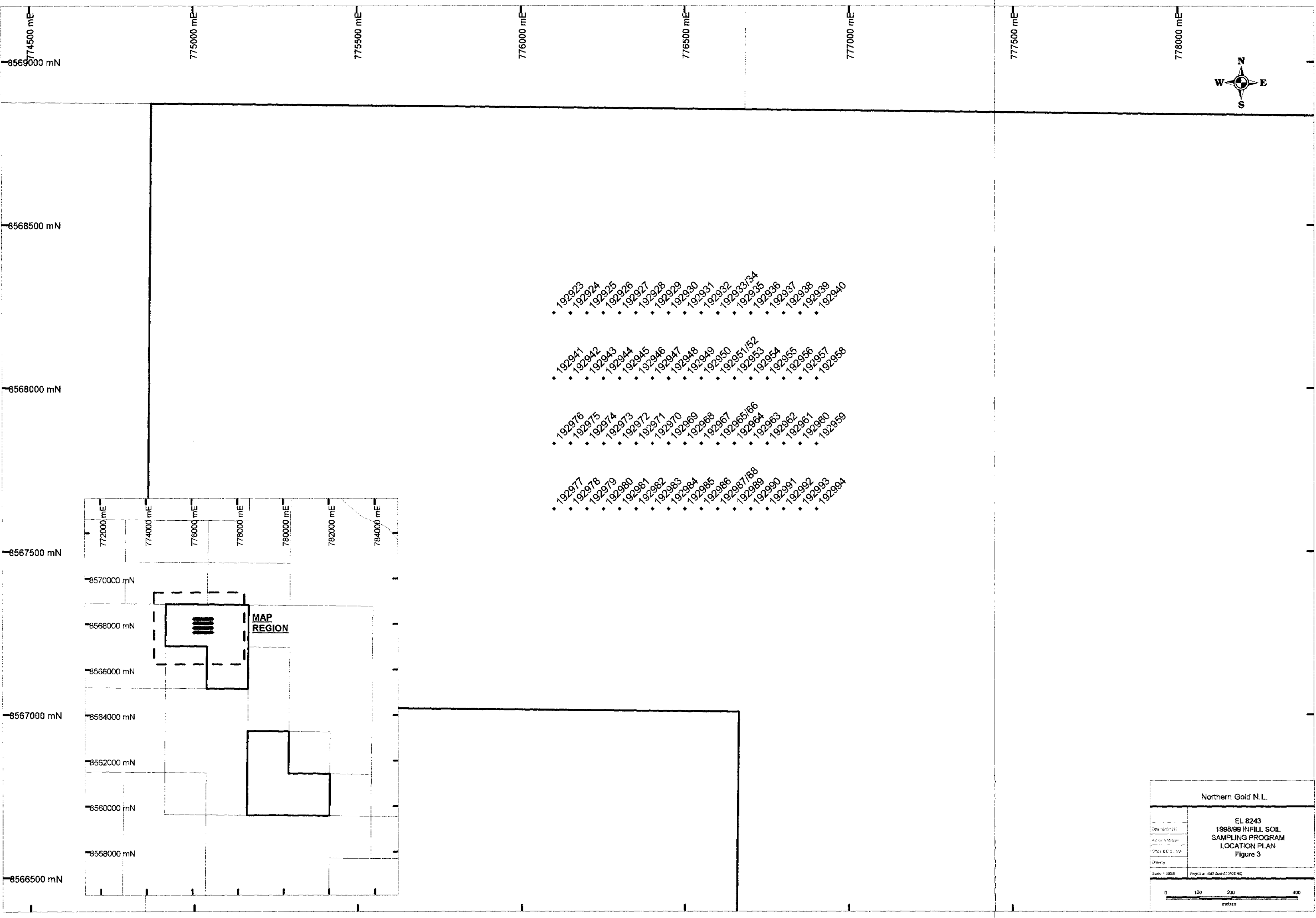
Table 1 Infill Soil Sampling Analytical Methods and Detection Limits

Element	Analytical Method	Digest	Technique	Detection Limit	Data Units
Au	FALL	FA	AAS	1	ppb
Au (R)	FALL	FA	AAS	1	ppb
Ag	G300I	MA3	ICP-OES	1	ppm
As	G300I	MA3	ICP-OES	10	ppm
Cu	G300I	MA3	ICP-OES	1	ppm
Pb	G300I	MA3	ICP-OES	5	ppm
Zn	G300I	MA3	ICP-OES	2	ppm

4.1.1 Infill Soil Sampling Program Results

The results from the soil sampling were successful in outlining a low-tenor north trending gold soil anomaly. The peak results returned were 120 ppb Au (Repeat analysis, Sample No. 192934, 8568230N : 776600E), 124 ppm As and 82 ppm Pb (Sample No. 192935, 8568230N : 776650E).

The assay results from the infill soil sampling program are presented in Appendix 1.

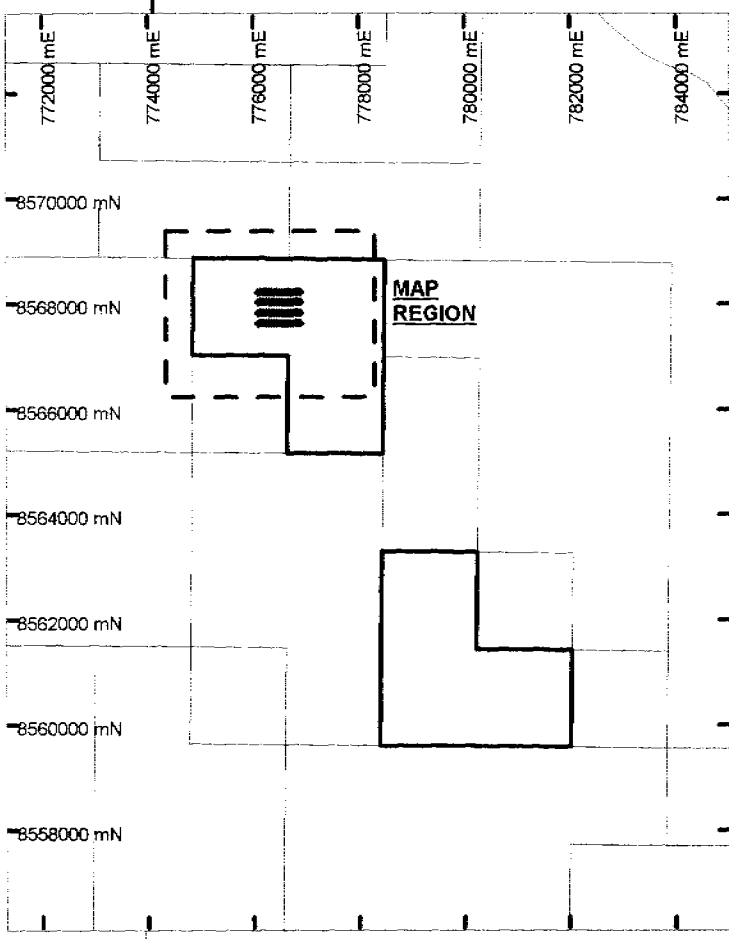


- 192923
- 192924
- 192925
- 192926
- 192927
- 192928
- 192929
- 192930
- 192931
- 192932
- 192933/34
- 192935
- 192936
- 192937
- 192938
- 192939
- 192940

- 192941
- 192942
- 192943
- 192944
- 192945
- 192946
- 192947
- 192948
- 192949
- 192950
- 192951/52
- 192953
- 192954
- 192955
- 192956
- 192957
- 192958

- 192976
- 192975
- 192974
- 192973
- 192972
- 192971
- 192970
- 192969
- 192968
- 192967
- 192965/66
- 192964
- 192963
- 192962
- 192961
- 192959

- 192977
- 192978
- 192979
- 192980
- 192981
- 192982
- 192983
- 192984
- 192985
- 192986
- 192987/88
- 192989
- 192990
- 192991
- 192992
- 192993
- 192994



Northern Gold N.L.	
EL 8243 1988/89 INFILL SOIL SAMPLING PROGRAM LOCATION PLAN Figure 3	
Date: 18/10/99 Author: V. Morgan Office: E.C. 2, JVA Drawing: Scale: 1:10000	Projection: AMG Zone 52, GDA 84

5.0 1998/99 EXPENDITURE

Expenditure over EL 8243, during the 1998/99 year of tenure totaled \$6,300. Details of this expenditure are listed below as Table 2.

Table 2 EL 8243 1998/99 Expenditure

COSTS	AMOUNT
Report Compilation	195
Tenement Management	280
Data Review	80
Assaying	1,140
Consumables	195
Accommodation, Field, Travel Expenses	350
Geological Contractors	1,090
Computing	125
Motor Vehicle Expenses and Fuel	190
Casual Wages	660
Salaries	945
Subtotal	5,250
Administration @ 20%	1,050
TOTAL	<u>\$6,300</u>

6.0 1999/2000 PROPOSED WORK PROGRAM

Exploration work proposed for the 1999/2000 year of tenure will include infill soil sampling, geological mapping, rock chip sampling and assaying.

These programs are proposed over the northern blocks of the licence to outline the source of the gold anomalism.

An estimation of the cost of these programs is given below in Table 3.

Table 3 EL 8243 1999/2000 Proposed Work Program

<u>COSTS</u>	<u>AMOUNT</u>
Infill Soil Sampling	2,500
Geological Mapping	500
Rock Chip Sampling	500
Assaying	2,000
Salaries and Wages	2,000
TOTAL	<u>\$7,500</u>

7.0 REFERENCES

- FAWCETT, C., (1995). EL 8243 - Mount Bundey South, Annual Report, Second Year of Tenure, 18.10.94 to 17.10.95. Unpublished report by Territory Goldfields N.L. for the NTDME.
- MORRISON, D., (1994). EL 8243 Mount Bundey South, Annual Report Year One of Tenure, 18.10.93 - 17.10.94. Unpublished report by Dominion Gold Operations Pty. Ltd. for the NTDME.
- MOTTRAM, N., (1998). EL 8243 1997/98 Annual Report, 18/10/97 to 17/10/98. Unpublished report by Northern Gold N.L. for the NTDME.
- SOCIC, N., (1996). EL 8243 1995/96 Annual Report, 18/10/95 to 17/10/96. Unpublished report by Northern Gold N.L. for the NTDME.
- SOCIC, N., (1997). EL 8243 1996/97 Annual Report, 18/10/96 to 17/10/97. Unpublished report by Northern Gold N.L. for the NTDME.

APPENDIX 1

**1998/99 Infill Soil Sampling Program Locations and
Assay Results**

Sample	AMG52 East	AMG52 North	Au ppb	Au(R) ppb	As ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppm
192923	776100	8568230	3		68	11	38	6	L
192924	776150	8568230	1		105	14	56	7	L
192925	776200	8568230	1		109	19	46	9	L
192926	776250	8568230	6		L	7	12	6	L
192927	776300	8568230	3		77	21	42	6	L
192928	776350	8568230	5		121	23	49	7	L
192929	776400	8568230	2		49	14	21	7	L
192930	776450	8568230	3		10	9	13	5	L
192931	776500	8568230	5	4	89	21	39	5	L
192932	776550	8568230	41	29	104	17	50	5	L
192933	776600	8568230	2	2	119	15	57	5	L
192934	776600	8568230	90	120	108	15	56	5	L
192935	776650	8568230	12		124	16	82	5	L
192936	776700	8568230	10		27	24	34	3	L
192937	776750	8568230	1	2	39	18	22	5	L
192938	776800	8568230	1		34	15	23	7	L
192939	776850	8568230	1		37	16	5	7	L
192940	776900	8568230	L		19	23	12	10	L
192941	776100	8568030	L		58	10	18	3	L
192942	776150	8568030	1		40	20	44	15	L
192943	776200	8568030	3		L	8	14	7	L
192944	776250	8568030	L		41	14	31	13	L
192945	776300	8568030	L		L	6	8	8	L
192946	776350	8568030	2	1	L	10	10	9	L
192947	776400	8568030	1		11	8	13	8	L
192948	776450	8568030	1		11	8	8	7	L
192949	776500	8568030	1		L	7	8	5	L
192950	776550	8568030	6		13	10	12	5	L
192951	776600	8568030	4		85	14	39	7	L
192952	776600	8568030	2		114	16	52	7	L
192953	776650	8568030	2		112	18	65	6	L
192954	776700	8568030	1		91	15	47	6	L
192955	776750	8568030	11	9	119	16	74	9	L
192956	776800	8568030	15	17	83	27	53	10	L
192957	776850	8568030	3		18	17	13	12	L
192958	776900	8568030	2		27	33	14	23	L
192959	776900	8567830	6		56	22	36	9	L
192960	776850	8567830	4		53	17	47	6	L
192961	776800	8567830	3	2	82	17	54	6	L
192962	776750	8567830	1		51	17	47	3	L
192963	776700	8567830	25	28	69	16	47	2	L
192964	776650	8567830	1		50	15	49	5	L
192965	776600	8567830	1		51	15	47	2	L
192966	776600	8567830	2		46	15	48	3	L
192967	776550	8567830	33	23	79	18	50	4	L
192968	776500	8567830	L		13	7	10	7	L
192969	776450	8567830	1		L	5	9	6	L
192970	776400	8567830	L		14	7	13	8	L
192971	776350	8567830	1	3	L	8	14	7	L
192972	776300	8567830	L		17	9	16	10	L
192973	776250	8567830	7		46	10	28	5	L
192974	776200	8567830	2		70	23	67	16	L
192975	776150	8567830	1		L	8	22	9	L

Sample	AMG52 East	AMG52 North	Au ppb	Au(R) ppb	As ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppm
192976	776100	8567830	1		12	8	12	14	L
192977	776100	8567630	4		11	10	32	15	L
192978	776150	8567630	3		14	24	22	21	L
192979	776200	8567630	14		26	12	28	21	L
192980	776250	8567630	3		L	7	13	10	L
192981	776300	8567630	2		L	5	15	8	L
192982	776350	8567630	3		20	8	17	7	L
192983	776400	8567630	2		13	8	16	10	L
192984	776450	8567630	L		L	7	12	8	L
192985	776500	8567630	1	1	16	10	14	6	L
192986	776550	8567630	2		24	13	32	6	L
192987	776600	8567630	1		55	14	41	6	L
192988	776600	8567630	37	30	28	14	28	5	L
192989	776650	8567630	4		30	12	32	4	L
192990	776700	8567630	1		34	13	28	5	L
192991	776750	8567630	1		29	17	31	5	L
192992	776800	8567630	4		38	16	35	6	L
192993	776850	8567630	3		17	18	19	5	L
192994	776900	8567630	2	3	21	15	13	5	L