Northern Gold N.L.

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Mineral Claims N3385-3389

Annual Report to 27th October 1990

Pine Creek Sheet SD 52.08, Burnside 14/2-II

Compiled for
Northern Gold NL by
Michelle Stokes
September 1990

SUMMARY

Mineral Claims 3385-3390 lie to the west of the Howley anticline five kilometres north west of the Bridge Creek alluvial mine, approximately 27 kilometres southeast of Adelaide River. Work on these claims consisted of boundary marking, reconnaissance, structural geological mapping, and re-evaluation of previous geochemical results.

Expenditure on the claims for the year totalled $2,713.00

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Figure 1. Location Diagram

1 INTRODUCTION

1.1 Title

MCNs 3385-3390 were granted on 27th October 1989 to Northern Gold NL for a period of 5 years and expire in 1994.

1.2 Location and access

MCNs 3385-3390 are located approximately 27 km southeast of Adelaide River in the Pine Creek Geosyncline. The claims lie to the west of the Howley anticline five kilometres north west of the Bridge Creek alluvial mine (Figure 1).

Access to the claims is via the Stuart Highway and 4WD tracks.

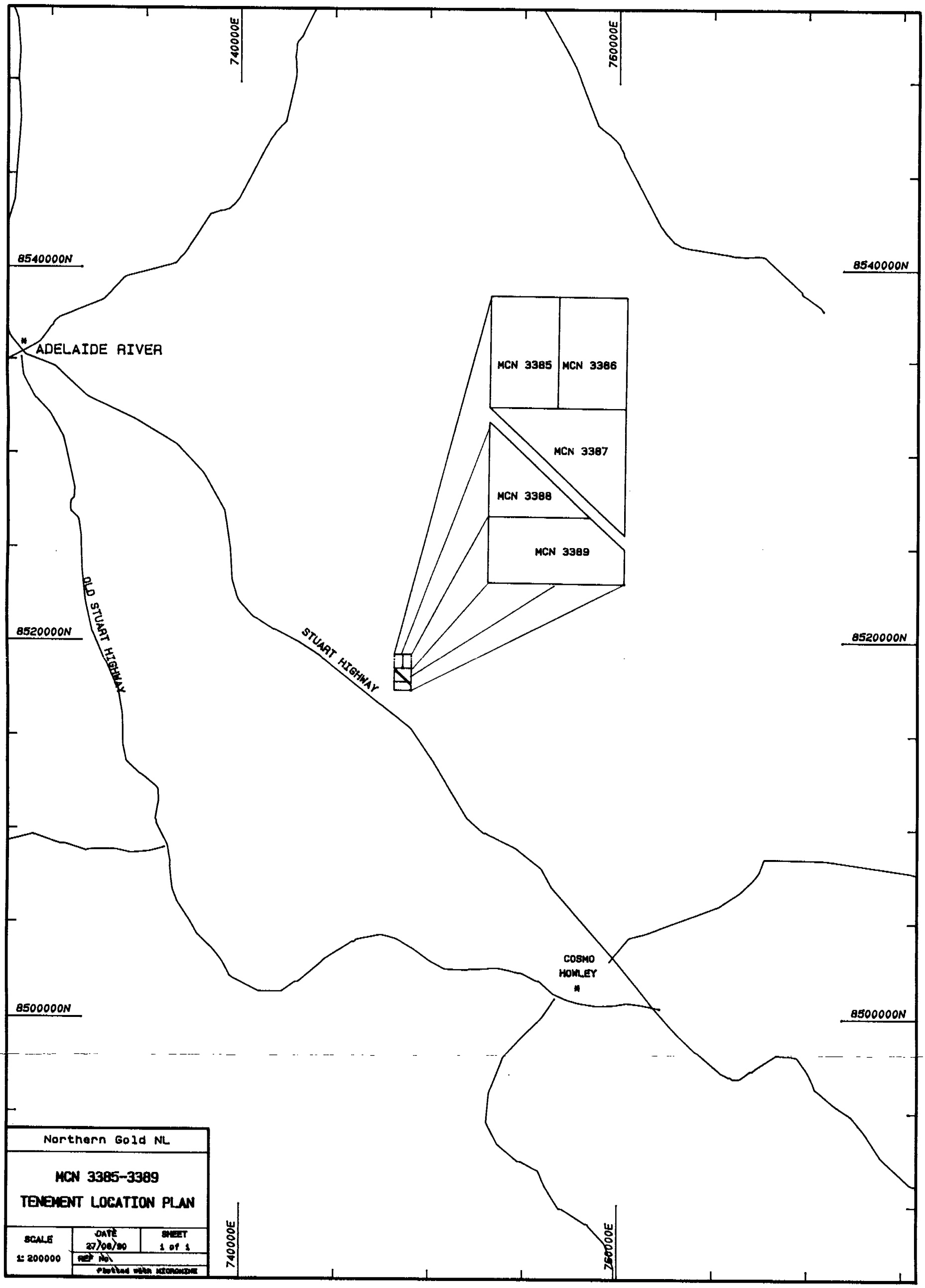
740000E
760000E
8540000N
8520000N
8500000N
ADELAIDE RIVER
OLD STUART HIGHWAY
STUART HIGHWAY
MCN 3385
MCN 3386
MCN 3387
MCN 3388
MCN 3389
COSMO HOWLEY
Northern Gold NL
MCN 3385-3389
TENEMENT LOCATION PLAN
SCALE
1: 200000
DATE
27/08/90
SHEET
1 of 1
REF No.
Plotted with MICROMINE

Figure 1

2.0 PREVIOUS EXPLORATION

MCNs 3385-3390 were pegged in 1989 on ground previously held as EL 4737 by Northern Gold NL. Exploration on EL 4737 over the area covered by the claims included mapping and soil sampling. These activities are covered in the annual reports for EL 4737.

3 EXPLORATION COMPLETED

3.1 Mineralization

Previous exploration in the area has assumed that the mineralization in the Pine Creek Geosyncline is primarily syngenetic in origin and has concentrated on horizons such as the Koolpin Formation as targets. Recent work by Dr Greg Partington, of Northern Gold NL, in the area has suggested that mineralization has a heterogeneous distribution and is confined to elongate zones associated with regional folds or shear zones. Recent mapping in the Pine Creek area and along the Howley Ridge suggests that the dominant control on mineralization is structural rather than lithological. The mineral claims were examined at a detailed scale for evidence of folding, shearing, and veining which may indicate possible mineralization sites. Formal production of maps is not complete.

3.2 Statistical Analysis of Previous Soil Sampling

Soil and stream sediment sampling data from the entire Howley area, including fire assay multi-element and gold BLEG sampling was re-assessed to determine background levels and element correlation. The fire assay soil sampling program was separated from the later BLEG sampling program. Both sets of data for the Howley area were plotted on frequency distribution curves and all elements analysed by both methods were plotted as log normal distributions. Consequently all the data was log normalized prior to statistical analysis.

The multi-element data form three groups when statistically analysed: Group 1 contains Pb, Zn As

and represents base metal mineralization probably related to syngenetic sulphide in shales. Group 2 contains Cu and As which again is probably related to syngenetic sulfides in the sediments. Group 3 contains Au and As and is directly related to gold bearing quartz veins in shear zones. Factor analyses of the multi-element data suggest that using the presence of sulphide mineralization as an exploration tool is not appropriate. Analyzing for Au by the BLEG method gave similar but more accurate results as compared with the fire assay analytical method. Statistical analyses of the BLEG data suggests that any value above 3 ppb is anomalous and that upper threshold values are present at 25 ppb, 50 ppb and 75 ppb respectively. Six highly anomalous gold zones have been identified outside the area covered by the mineral claims which have been proved to contain bed-rock mineralization using the threshold values given by the statistical analysis.

A review of the soil and stream sampling carried out in Mineral Claims 3385-3390 using the threshold values identified by the statistical analysis suggests that further detailed sampling may be required on the areas which show anomalous Au values.

3.3 Tenement Boundary Maintenance

Boundaries of the claims were re-marked and fence droppers located at least every 100 metres on the external boundaries of the claims (those boundaries which abut non-Northern Gold ground).

4 FUTURE WORK

Work to be completed in the claims includes finalizing the structural mapping and investigation of any suitable zones by rock-chip and detailed soil sampling.

5 EXPENDITURE - November 1989 - October 1990 (unaudited-approx)

Report and Plan Preparation	$250
Geological Mapping (Salaries)	$1,000
Geological Mapping (Vehicle costs)	$120
Data Analysis ..	$200
Boundary marking (wages)	$300
Boundary marking (Consumables and vehicles)	$100
General Costs including Accommodation. Maintenance, Travel etc.	$200
Subtotal	$2.170
Regional Office Admin Cost @ 10%	$217
Head Office Admin @ 15%	$326
TOTAL	$2,713