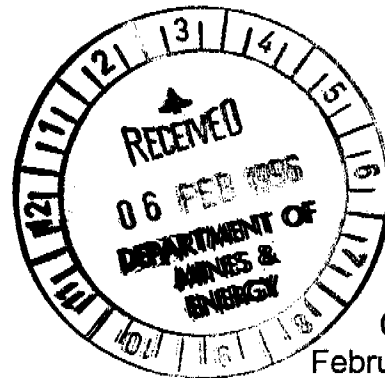




**EL 8589 - FERGUSON RIVER
ANNUAL REPORT
YEAR ONE OF TENURE**

51002
**31/1/95 - 30/1/96
Ranford Hill 1:100,000 Map Sheet**



Distribution:

C. Fawcett
February 1996

CRA6/126.
NTDME
Territory Goldfields NL, Darwin
Barnjarn Mining Company

Territory Goldfields N.L.

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OPEN FILE

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1.0 SUMMARY

EL8589 is located approximately 250km southeast of Darwin on the Ranford 1:100,000 scale map sheet and lies within the Wandie Project area.

The licence was granted to Dominion Gold Operations Pty Ltd in January 1995 and was subsequently acquired by Territory Goldfields NL in May 1995.

No exploration has been undertaken during the first year of tenure due to the acquisition of the licence by Territory Goldfields and commitments in other areas.

2.0 LOCATION AND TENURE

EL8589 is located approximately 50km east-southeast of Pine Creek and 250km southeast of Darwin. Access is via the Stuart Highway or Kakadu Highway and then via maintained pastoral tracks (figures 1 and 2).

The licence covers two graticular blocks described by latitudes 13°58'E and 13°59'E and longitudes 132°15'S and 132°17'S. It is situated on the Ranford Hill 1:100,000 and Ranford 1:50,000 scale map sheets.

The licence was granted to Dominion Gold Operations Pty Ltd on 31 January 1995 and was subsequently acquired by Territory Goldfields NL in May 1995.

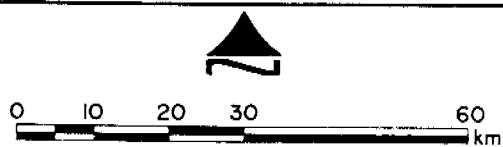
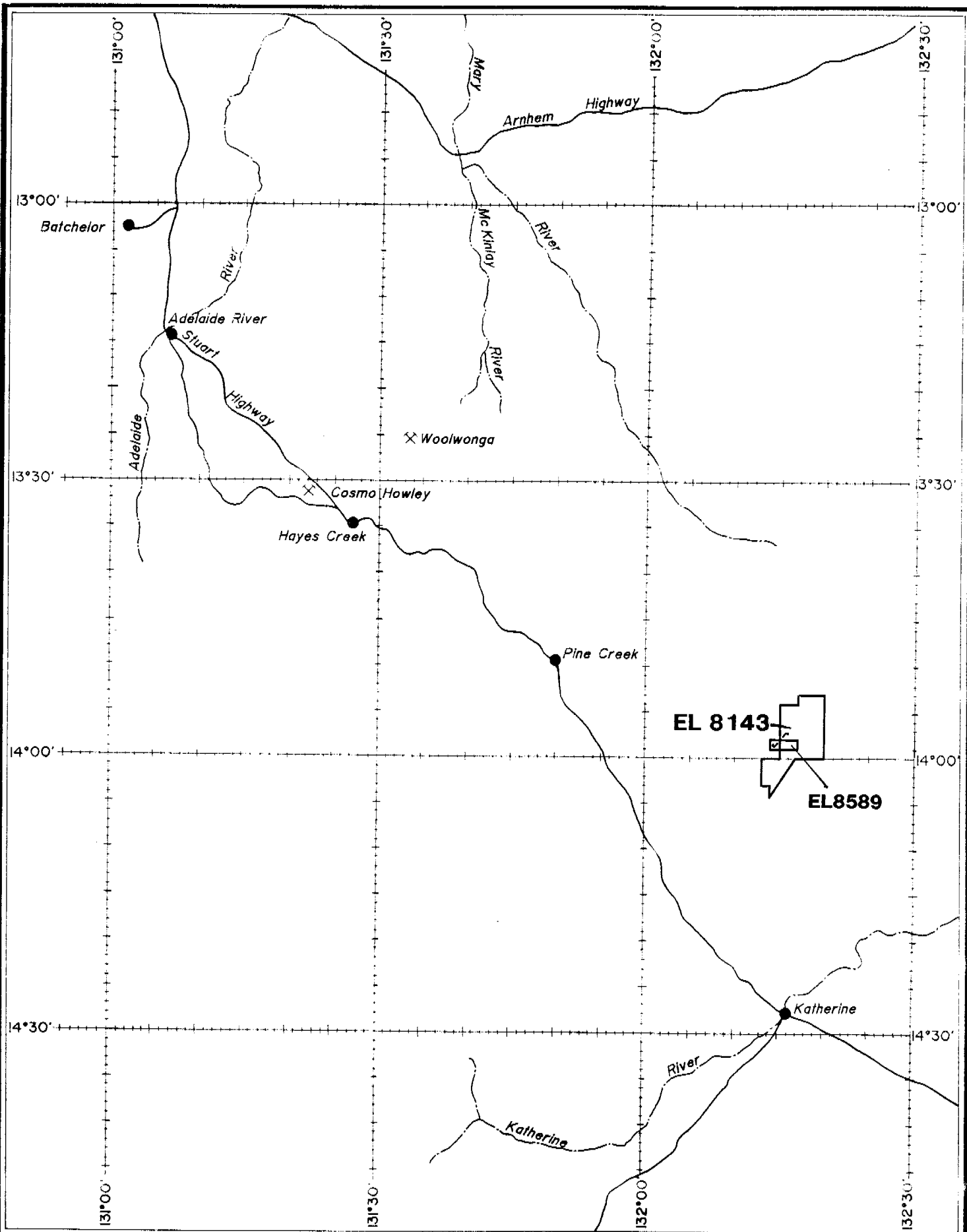
3.0 GEOLOGY

3.1 Regional Geology

The Pine Creek Inlier is a roughly triangular area of about 66,000km² south and east of Darwin, which contain Early Proterozoic metasedimentary rocks resting on a gneissic and granitic archaean basement. The metasediments represent fluvial, shallow water and intertidal basinal sequence up to 14km thick (Needham et al, 1980).

During the Top End Orogeny (1870-1780Ma) the rocks were metamorphosed to mainly greenschist facies, however, amphibolite facies dominates in the northeast in the Alligator Rivers region. Proven Archaean rocks are restricted to mainly granite-gneiss of the Rum Jungle, Waterhouse and Nanambu Complexes which formed mantled gneiss domes near the presently exposed western and eastern margins of the inlier.

The sedimentary rocks are mainly shale, siltstone, sandstone, conglomerate, carbonate rocks and iron formations. Felsic to mafic volcanism and associated tuffaceous sediments are also present. The sedimentary sequence is intruded by transitional igneous rocks including pre-tectonic dolerite sills and syn to post



EL8589 Tenement Location

PROJECT **WANDIE**

STATE **N.T.**

ORIGINATOR **J.B.**

Date **Sept 94**

DRAWN **L.C.**

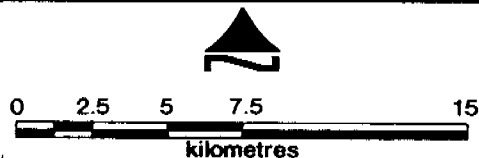
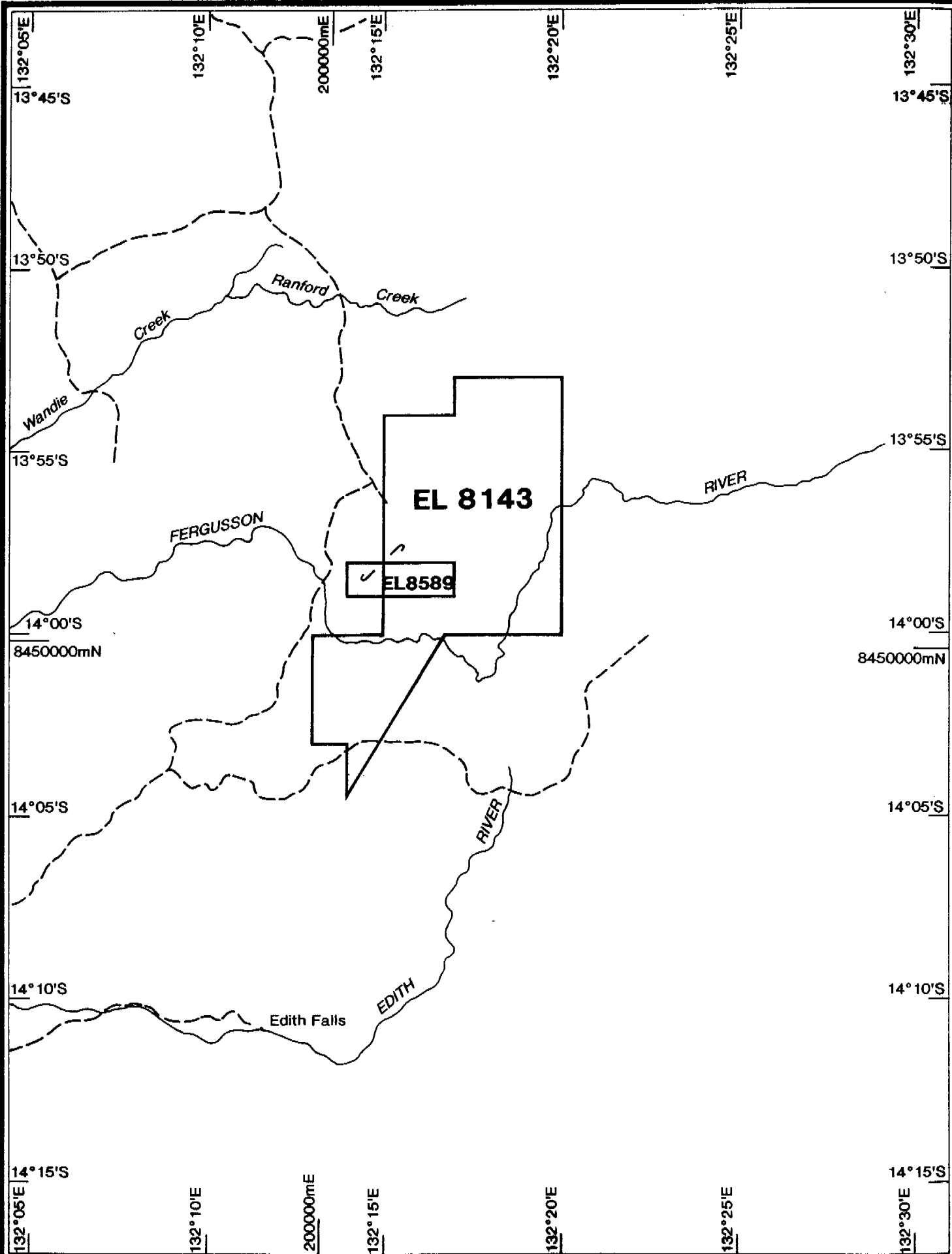
Date **Sept 94**

SCALE **1:1000000**

FIGURE NO: **1**

PLAN NO: **162C-Tb1**

 **Dominion Mining Limited**



EL8589 Tenement Location

PROJECT **WANDIE**

STATE **N.T.**

ORIGINATOR **J.B.**

Date **Sept 94**

DRAWN **L.C.**

Date **Sept 94**

SCALE **1:250000**

FIGURE NO. **2**

PLAN NO: **162C-Ta4**

tectonic granitoid plutons and dolerite lopoliths and dykes. Largely undeformed platform covers of Middle Proterozoic to Mesozoic strata overlie these Lower Proterozoic sediments.

3.2 Local Geology

The area is dominated by Burrell Creek Formation sediments and the Wolfram Hill Granite

The Burrell Creek Formation is dominated by greywacke and siltstone/shale. Most of the rocks within the unit are well cleaved and tightly folded about north to northwest subhorizontal fold axes.

Folding is complex and appears to trend northeast through the licence area (Figure 3).

4.0 1995-1996 EXPLORATION

No exploration was carried out during the first year of tenure due to the acquisition of the licence and commitments in other areas.

5.0 PROPOSED PROGRAMME

The proposed programme for year two will involve literature research, gridding and soil sampling of the entire licence area. Numerous tin and tungsten workings are present within and around the tenement and there is a possibility of further mineralisation being present within the tenement.

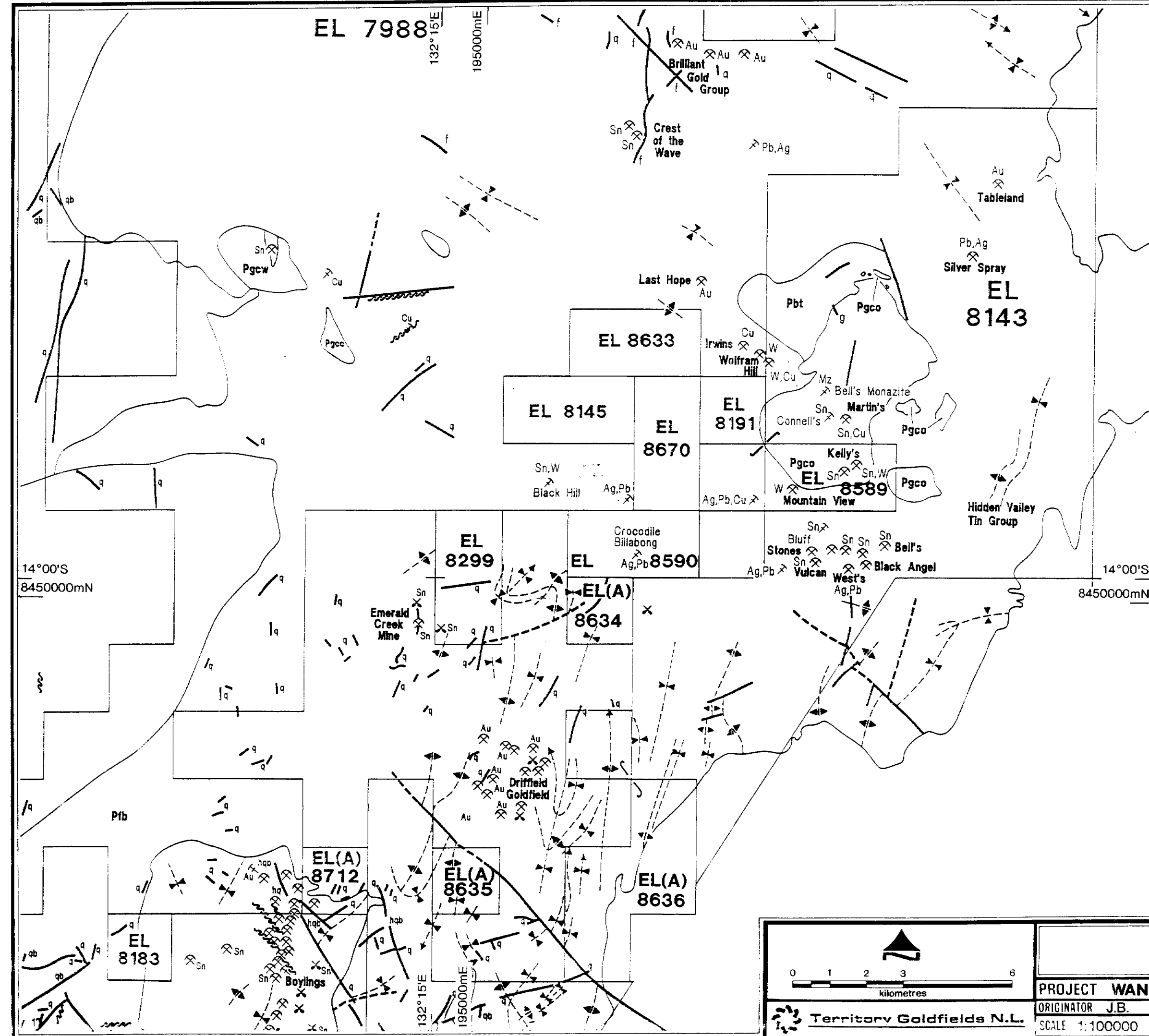
The minimum expenditure for this programme is expected to be \$2,500.

6.0 EXPENDITURE

No expenses were incurred over EL8589 during the first year of tenure.

7.0 REFERENCES

- Needham, R.S. , Crick, J.H. and Stuart-Smith, P.G. (1980)
'Regional Geology of the Pine Creek Geosyncline', in Proceedings of
the International Uranium Symposium, International Atomic Energy
Agency, Vienna p1-22.



Legend

Basement Metasediments, Volcanics, Granite
Cst Ferruginous and clayey sand
Cst Sandstone rubble (sand and scree)
Metasilt - Ordovician
K Fine to coarse sandstone, siltstone and conglomerate
shales and terrestrial sediments

Proterozoic
Pht KATHERINE RIVER GROUP - Koonaple Formation
medium to coarse quartz sandstone, cross bedded and ripple marked, minor siltstone, pebbly beds and conglomerate
Pp Rhyolite, dacite, minor basic volcanics, ignimbrite, tuffaceous siltstone
Pep PLUMTREE VOLCANICS - Rhyolite, spate, ignimbrite, minor basic volcanics, lenses of tuffaceous sandstone
Psk KURRUMUNG SANDSTONE - Purple quartz greywacke
Psl PHILLIPS CREEK SANDSTONE - sandstone, conglomerate, shale, tuffaceous sediments
Psw LEWIS SPRINGS SYENITE - perthynite quartz microsyenite, rhyolite, perthynite megacrysts, or quartz monzonite

Proterozoic - Collon Subgroup
Pgs Undifferentiated granite, leucogranite and gneissoids
Pgcs, Ppcc, Ppccs, Ppccs, Ppccs, Ppccs Undifferentiated granite, leucogranite, gneissoids

Pgcs Grey-green medium to coarse grained quartz monzonite, coarse perthynite quartz monzonite, mafic hornblende quartz syenite, minor mafic hornblende quartz monzonite and mafic diorite

Proterozoic - B. Sharnum Group
Pht TOLLUS FORMATION - Greywacke, siltstone, argillite, tuff, ignimbrite, basalt
Pht₁ Rhyolite, argillite, greywacke, crystal tuff
Pht₂ Pale green argillite, spotted crystal tuff, greywacke, tuffaceous greywacke, siltstone
Pht₃ Interbedded greywacke, pale tuffaceous greywacke, siltstone, pale green argillite, cherty tuff

Proterozoic - west
Pht DURRELL CREEK FORMATION - greywacke, siltstone, shale, minor conglomerate, rare argillite and basic volcanics
Pss MOUNT BONNE FORMATION - late / carbonaceous in places, shale, phyllite, siltstone, greywacke, argillite, crystal tuff, tuffaceous chert, minor ferruginous siltstone with chert bands, lenses and nodules
Pss ZEPHYRUS TUFF - Black green cherty tuff, green argillite, pale green tuffaceous greywacke, rare chert-banded siltstone
Psk KOOLPIN FORMATION - Ferruginous siltstone, with chert bands, lenses and nodules, pyritic carbonaceous shale, silicified dolomite, minor phyllite, jasper and banded iron formation
Pss WEDMAN SILTSTONE - siltstone, in places carbonaceous at depth, red and cream laminated siltstone, minor the blocky quartzite and quartz greywacke
Pss MASSON FORMATION - ferruginous shale, locally carbonaceous at depth, fine to coarse calcareous and volcanic greywacke, dolomite, sandstone, dolomite
Pc CAHILL FORMATION - mica-feldspar-quartz schist and quartz-schist with garnet, amphibole and kyanite in places, carbonaceous schist, crystalline dolomite - magnetite, and calc-silicate gneiss near base

sp Asbestos
Ag Silver
Au Gold
B Bismuth
Cd Cadmium
Cu Copper
F Fluorite
Fe Iron
G Granite
Hq Hematitic quartz
Hqb Hematitic quartz breccia
Mo Molybdenum
M Manganese
Q Quartz
Qb Quartz breccia
S Syenite
Sn Stannum
Tz Tin
U Uranium
W Tungsten
Zn Zinc

..... Mine
..... Prospect
..... Alluvial Mine
..... Geological Boundary
..... Syncline
..... Anticline
..... Shearing
..... River
..... Highway

0 1 2 3 6
kilometres

Territory Goldfields N.L.

**EL8589
Fact Geology**

PROJECT WANDIE

ORIGINATOR J.B. Date Dec 94 DRAWN L.C. Date Dec 94

SCALE 1:100000 FIGURE NO 3 PLAN NO 162C-Ga3

STATE N.T.