TAS 02835

EL8055 - HORNERS CREEK SOUTH

ANNUAL REPORT
YEAR TWO OF TENURE
27.7.94 - 26.7.95
McKinlay River 1:100,000 Map Sheet

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August 1995

s NL, Darwin

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1.0 SUMMARY

EL8055 is located approximately 40km northwest of Pine Creek on the McKinlay River 1:100,000 map sheet. The licence was granted to Northern Territory Gold Mines NL in July 1993.

The licence area contains Lower Proterozoic metasediments which have been folded and intruded by dolerite.

Exploration during the first year of tenure consisted of research and data compilation. All data were processed digitally via a Geographic Information System. The exploration programme proposed for year two was not undertaken due to expenditure commitments in other areas.

2.0 LOCATION AND TENURE

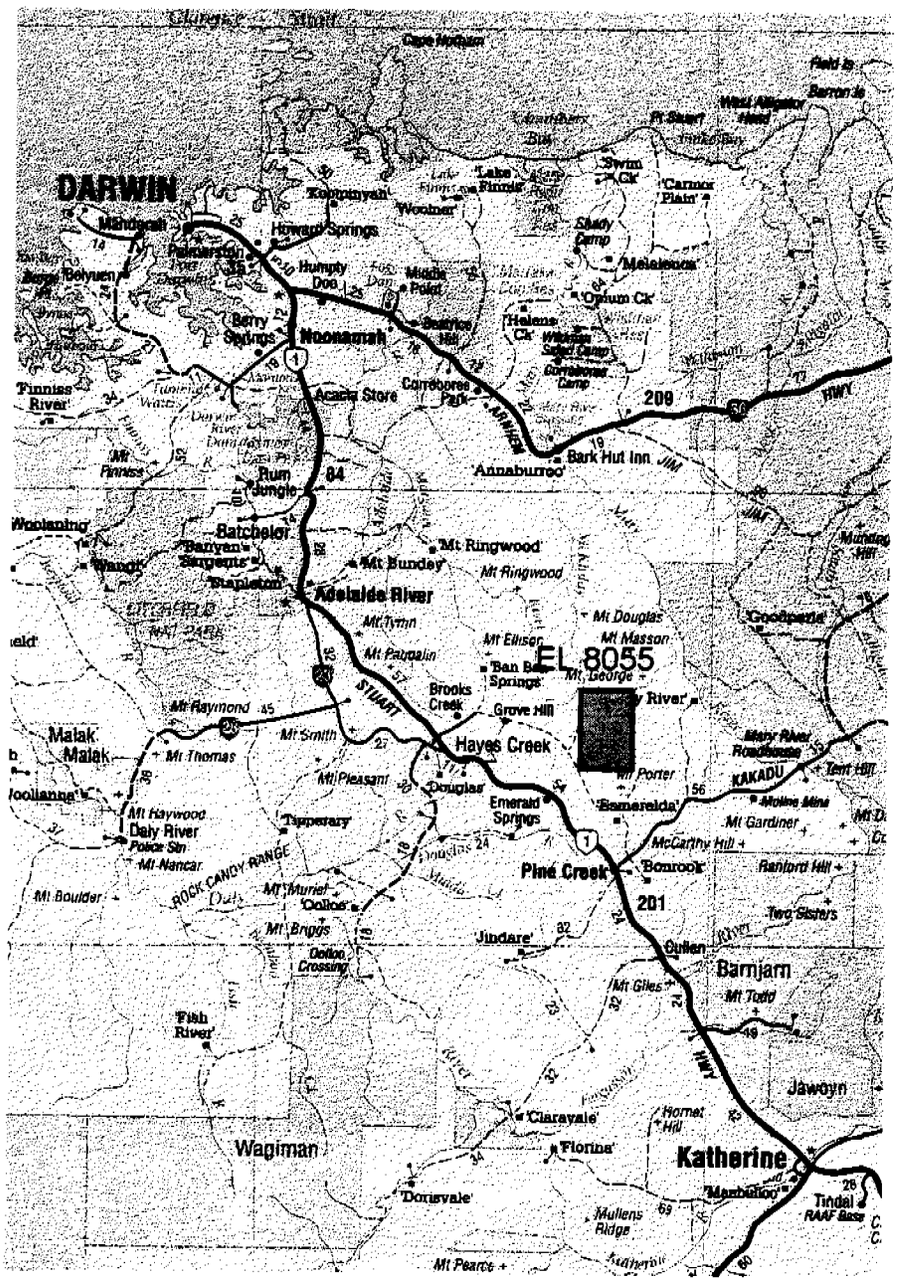
EL8055 is located approximately 40km northwest of Pine Creek on the Ban Ban 1:50,000 map sheet. The licence consists of nine graticular blocks described by the latitudes 13°26'S and 13°29'S and longitudes 131°41'E and 131°44'E. (See Figure 1 and 2).

Access is via the Stuart Highway then via unsealed road adjacent to the old railway line to Burrundie Siding then north via unsealed road to the licence area.

The area is dominated by Horners Creek, a major tributary of the McKinlay River. It is characterised by low hills and rubble-covered rises formed by metasedimentary rocks with intervening alluvial flats.

The licence lies wholly within Ban Ban Springs Perpetual Pastoral Lease 1111 (NT portions 695 and 1344). It was granted to Northern Territory Gold Mines NL on 27 July 1993 for a period of six years, the title was subsequently transferred to Territory Goldfields NL.

EL 8055



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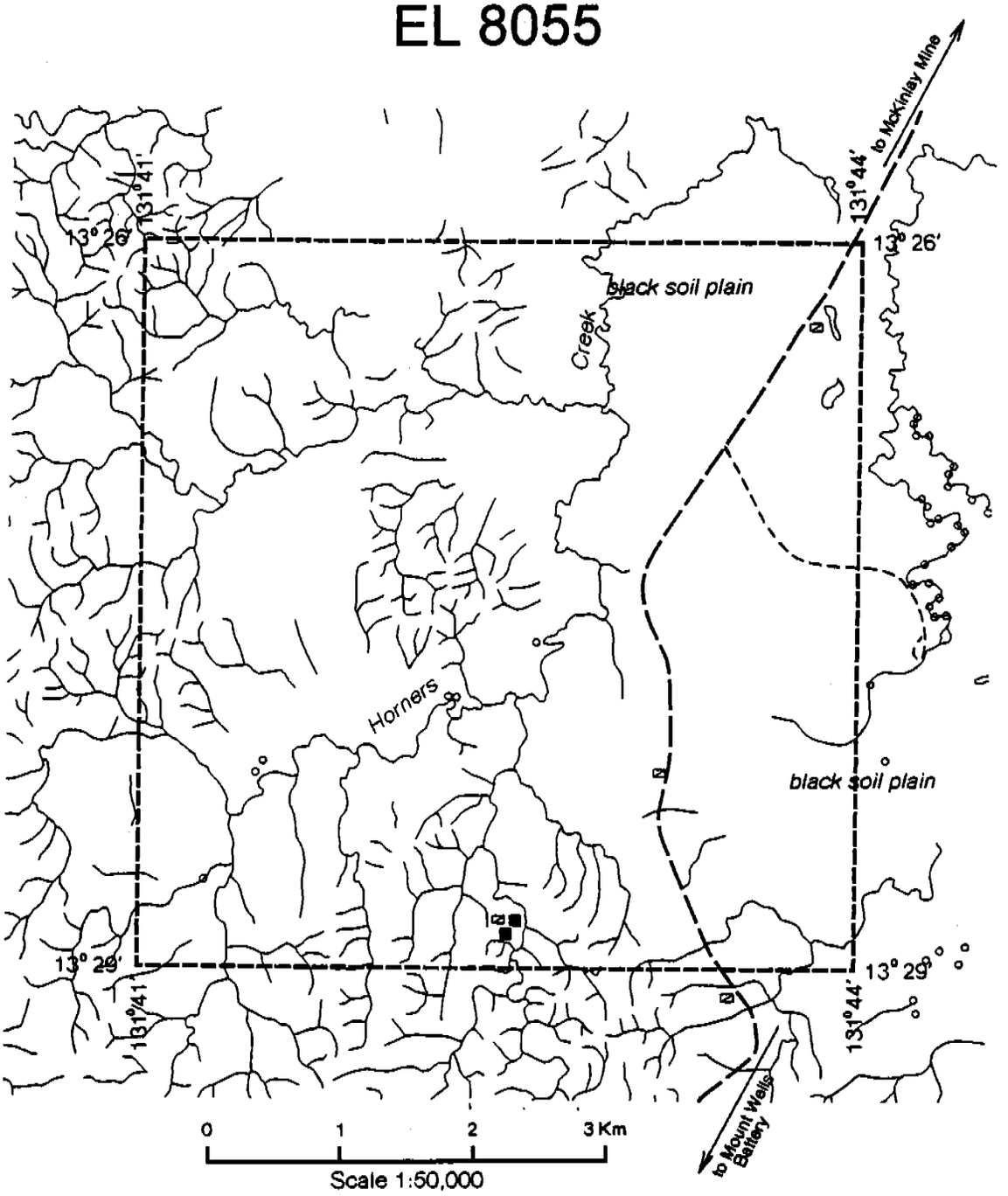
NORTHERN TERRITORY
GOLD MINES NL

ACN 057 123 930

FIGURE 1
LOCATION

EL 8055



LEGEND

- Minor Road
- Vehicular Track
- River, Stream
- Mine
- Building

COMPILED FROM 100,000 MAPPING SERIES
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MAP 5271 McKINLAY RIVER

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FIGURE:2

EL8055 TENEMENT LOCATION

3.0 GEOLOGY

3.1 Regional Geology

The Pine Creek Inlier is a roughly triangular area of about 66,000km^2 south and east of Darwin, which contain Early Proterozoic metasedimentary rocks resting on a gneissic and granitic archaean basement. The metasediments represent fluviatile, 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 tectonic granitoid plutons and dolerite lopoliths and dykes. Largely undeformed platform covers of Middle Proterozoic to Mesozoic strata overlie these Lower Proterozoic sediments.

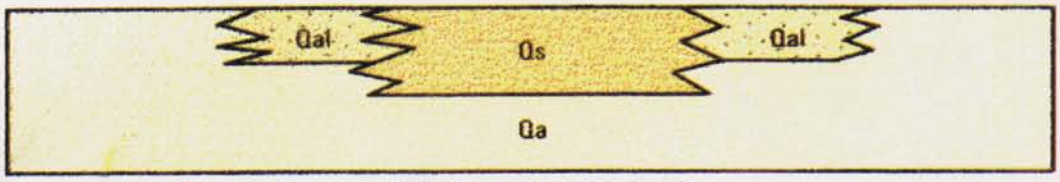
3.2 Local Geology

The licence area contains metasediments of the Burrell Creek Formation plus minor outcrops of Mount Bonnie Formation. Tight complex folding is evident. Zamu Dolerite outcrops near the eastern boundary and trends NNW-SSW.

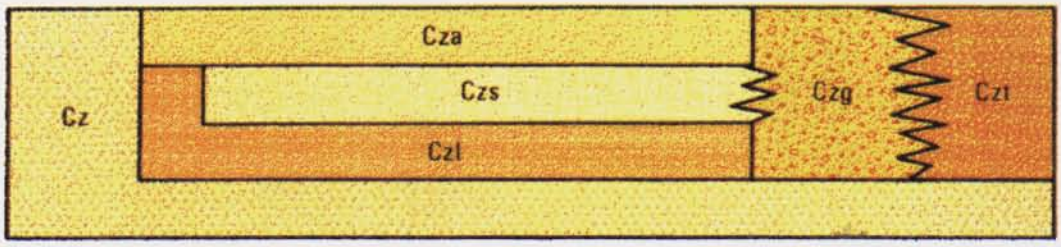
Buck quartz veins and blows are common, particularly in the western part of the area. Faults and shears are also common in the western and central parts with dominant north-south and northwest-southeast orientations.

Hornfelsing due to the Prices Springs Granite is evident in the western part of the licence area. Geophysical evidence indicates that granite also underlies most of the area to the east of the tenement. (See Figure 3).

REFERENCE



Qa — *Silt, sand, clay and gravel: alluvium and flood plain deposits*
Qal — *Silt, clayey silt: levee deposits*
Qs — *Quartz sand: outwash and channel deposits*



Cz — *Lithosols, gradational red soils and yellow earth type soils shown ⁘ where these soils occur over known rock units*
Cza — *Winnowed sand, silt, clay, partially derived from Czs*
Czs — *Quartz sand, ferruginous and clayey sand: fan deposits*
Czl — *Detrital, pisolitic and concretionary ironstone*
Czg — *Higher level gravels and gravelly lithosols*
Czt — *Sandstone, and metasediment fragments, sand: talus and scree deposits*

Pdz — *Massive quartz dolerite, amphibolite*

Pfb — *Brown, grey and red sandy siltstone, siltstone, phyllite, slate and quartz–andalusite–muscovite–biotite–cordierite hornfels. Fine to coarse greywacke, minor volcanolithic pebble conglomerate. ᵛᵛᵛ Denotes rare highly altered felsic volcanics*

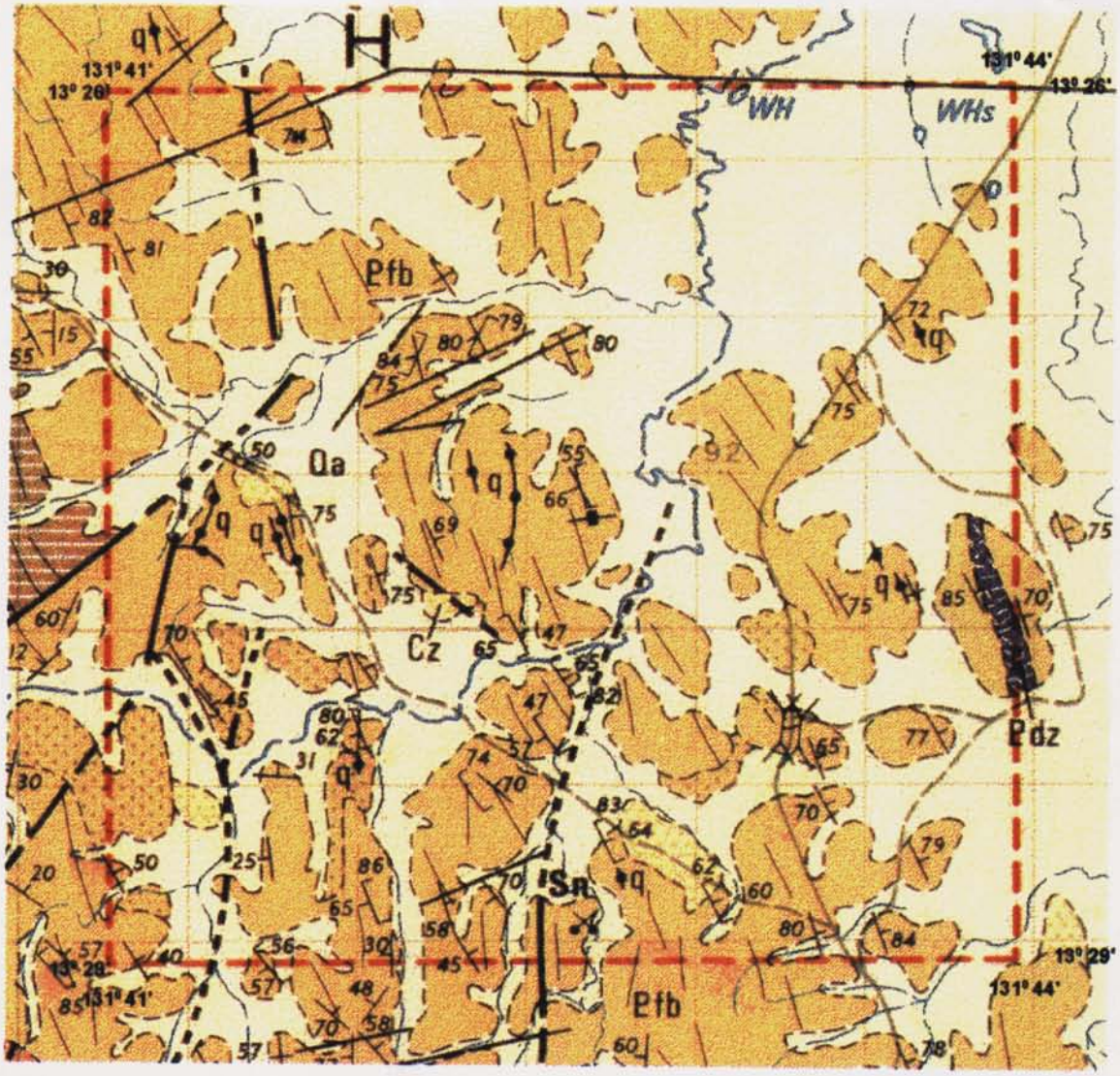
Pso — *Siltstone and slate with minor laminated black chert bands, lenses and nodules, massive medium to coarse feldspathic greywacke; minor banded iron formation, argillite, crystal tuff and tuffaceous chert*

Psg — *Grey and brown siltstone and phyllite, andalusite–garnet–biotite–muscovite–quartz hornfels; pink, green, grey and brown argillite; glassy black spotted vitric tuff, crystal tuff and tuffaceous chert*

Psk — *Brown ferruginous siltstone, shale and phyllite commonly carboneceous and containing chert bands, lenses and nodules, massive ironstone; carboneceous claystone; grey graphitic chiastolite–muscovite–quartz hornfels; minor lenses of laminated, massive or brecciated silicified dolomite, impure dolomite, dolomitic marble and tremolite hornfels. Rare sandy siltstone and limonitic quartz sandstone at base*

REFERENCE

EL 8055



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Map 5271, McKinlay River

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FIGURE:3

EL8055 LOCAL GEOLOGY

4.0 DOMINION EXPLORATION

Detailed mineral exploration has been undertaken in the area in recent years principally by Billiton Australia and Northern Gold NL.

Billiton carried out stream sediment sampling, rock chip sampling, ground magnetometry and interpretation of aeromagnetic data. Results from these programmes were discouraging. Anomalous stream values of up to 26.9ppb Au appear to have their source outside the exploration licence.

Northern Gold NL carried out stream sediment, soil and rock chip sampling. Stream sediment sampling identified two anomalous zones associated with quartz stockwork and/or vein systems within shear zones. Follow-up soil sampling produced only spotty gold grades.

Northern Territory Gold Mines carried out the following during the first year of tenure.

- Acquisition and digitising of colour aerial photography for the McKinlay River project area.
- Research of all available data for the area.
- Establishment of a Geographic Information System with subsidiary databases to manage all data.

5.0 TERRITORY GOLDFIELDS EXPLORATION

No exploration was undertaken over EL8055 during the second year of tenure due to commitments in other areas.

6.0 PROPOSED PROGRAMME

The proposed exploration programme for the third year of tenure will involve detailed mapping, stream sediment soil and rock chip sampling and geophysical data interpretation. This programme is expected to cost approximately $5,800.

7.0 REFERENCES

Hosking, A.J., 1994: Northern Territory Gold Mines NL
Exploration Licence 8055, Horners Creek South, First Annual Report for Year Ending 26.7.94. Unpublished report to the NTDME.

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.