EXPLORATION LICENCE 9252
STAKE RANGE
NORTHERN TERRITORY

FOURTH ANNUAL REPORT

For the Period
3 October 1998 to 2 October 1999

Report No TGJVS012
Due Date: 2 November 1999
1:250,000 Map Ref: TANAMI SE 52-15

Prepared by
P.J. HOGARTH
October 1999

Distribution:
☐ Department of Mines & Energy, Darwin
☐ Tanami Gold NL
☐ Glengarry Resources NL - File Copy
☐ Glengarry Resources NL - Field Copy
# REPORT METADATA FORM
(MINERAL EXPLORATION)

## PART A (DME USE ONLY)

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## PART B

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## Topographic Units

- Amadeus Basin
- Arafura Basin
- Arnhem Basin
- Arunta Inlier
- Birrindudu Basin
- Bonaparte Basin
- Browse Basin
- Carpentaria Basin
- Daly Basin
- Dunnmarra Basin
- Eromanga Basin
- Fitzmaurice Mobile Zone
- Georgina Basin
- Granites-Tanami Inlier
- McArthur Basin
- Money Shoal Basin
- Murphy Inlier
- Musgrave Block
- Ngalia Basin
- Ord Basin
- Pedirka Basin
- Pine Creek Inlier
- Simpson Basin
- South Nicholson Basin
- Tennant Creek Inlier
- Victoria Basin
- Warburton Basin
- Wiso Basin

## Other structural units

- GARDINER SANDSTONE

## AMF Thesaurus Terms - General

- Geological mapping
- Metallogenesis
- Petrology
- Lineaments
- Stratigraphy
- Regional Geology
- Remote sensing
- Lithology
- Photogeology
- Literature reviews
- Reconnaissance
- Imagery
- Indicator minerals
- Structural Geology
- Landsat
- Metamorphism

## AMF Thesaurus Terms - Target Minerals

- Gold
- Lead
- Zinc
- Silver
- Copper
- Uranium
- Tin
- Platinum Group Minerals
- Bauxite
- Diamonds
- Industrial Minerals

## Others...

## AMF Thesaurus Terms - Mining

- Environmental impact surveys
- Ore reserves
- Mine design

- Feasibility studies
- Resource assessment
- Mine drainage

- Geostatistics
- Mineral resources
- Mine evaluation

- Metallurgy
- Mining geology
- Pits

## AMF Thesaurus Terms - Geophysical Surveys

- Aerial magnetic surveys
- Gravity surveys
- Sirotem surveys
- Seismic surveys

- Aerial radioactivity surveys
- Geophysical anomalies
- Ground magnetic surveys
- Magnetic anomalies

- Aerial EM surveys
- Gravity anomalies
- IP surveys
- Geophysical interpretation

- Ground EM surveys
- Bouger anomaly maps
- Resistivity surveys
- Geophysical logs

## AMF Thesaurus Terms - Geochemical Exploration - Surface sampling

- Geochemical sampling
- Soil sampling
- Isotope geochemistry

- Stream sediment sampling
- Heavy mineral sampling
- Whole rock analysis

- Rock chip sampling
- Geochemical anomalies
- X ray diffraction

- Bulk sampling
- Assaying
- Sample location maps

## AMF Thesaurus Terms - Geochemical Exploration - Drilling methods

- Diamond drilling
- RC drilling
- Drill core

- RAB drilling
- Rotary drilling
- Drill cuttings

- Percussion drilling
- Vacuum drilling
- Drill hole logs

- Air drilling
- Auger drilling
- Drill core analysis

## Drilling Type

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## Mines / Deposit / Prospects

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EXPLORATION LICENCE 9252, STAKE RANGE
ANNUAL REPORT, YEAR ENDED 2 OCTOBER 1999

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1 Digital Data ............................................................................... 3.5" disk, inside back cover
29 October, 1999

The Mining Registrar
Department of Mines and Energy
Centrepoint Tower
The Mall
DARWIN NT 0800

Dear Sir

EXPLORATION LICENCE 9252 - ANNUAL REPORT, 1998-99

Please find enclosed a copy of the Fourth Annual Exploration Report for Exploration Licence 9252 covering exploration carried out in the period 3 October 1998 to 2 October 1999. A report metadata form is also attached.

This report is submitted on behalf of the Licence holders, Glengarry Mining NL and Tanami Exploration NL.

Yours faithfully
GLEN GARRY RESOURCES NL

[Signature]

PADDY HOGARTH
Tenement Manager

cc Denis Waddell, Tanami Gold NL
SUMMARY

Exploration Licence 9252 at Stake Range covers an area of the Lower Proterozoic Tanami Granites Province in northern Australia.

The ground is being explored for gold by a joint venture between Glengarry Resources NL and Tanami Gold NL.

Due to economic constraints there was no field work undertaken on the licence during the 1998-99 field season. Work undertaken during the year included data capture and digitising of available data and interpretation of results.

An extensive soil sampling program planned for 1998-99 had to be deferred and it is now planned to undertake this during the 1999-2000 field season.
1. INTRODUCTION

In 1992 Glengarry Resources NL commissioned a regional geoscientific study of the Tanami Granites Province in northern Australia encompassing about 70,000 square kilometres considered to be prospective for gold. The purpose of the study was to compile a database on the Province and identify and categorise exploration targets throughout the Province. As opportunity arose prospective ground would be acquired and explored, either through application, acquisition or joint venture.

In May 1994 Glengarry formed a series of joint ventures with Tanami Gold NL to further the two companies' exploration interests in the region. Under the terms of the joint venture agreement Glengarry and Tanami are separately responsible for management of exploration operations in defined joint venture areas. Glengarry is the manager of the Stake Range Joint Venture which now encompasses EL 9252.

Ground in the Stake Range area became available for application in 1995 and Exploration Licence 9252 was applied for in June 1995 over an inlier of Lower Proterozoic Tanami Complex rocks which possess favourable magnetic structural features. The licence was granted on 3 October 1995 for a six year term. This is the fourth annual report submitted for the licence describing exploration activities managed by Glengarry.

2. TENURE AND OWNERSHIP

Exploration Licence 9252, originally of 32 blocks, was granted on 3 October 1995 for a six year term ending on 2 October 2001. The licence was reduced on its second and third anniversaries in 1997 and 1998 and is now comprised of 8 blocks. Application was made for waiver from the requirement to relinquish 50% of the remaining area of the licence on its fourth anniversary on 3 October 1999. Full waiver was granted as advised by letter from the Mining Registrar dated 5 October 1999 allowing 8 blocks to be retained until 2 October 2000.

Exploration Licence 9252 together with Exploration Licence 8603 immediately to the east comprise the Stake Range Joint Venture managed by Glengarry Resources NL. The licence holders are Glengarry Mining NL, a wholly owned subsidiary of Glengarry Resources NL and Tanami Exploration NL, a wholly owned subsidiary of Tanami Gold NL. Tanami Gold elected not to contribute to 1998 expenditure on the Stake Range Joint Venture and under the terms of the joint venture agreement is diluting its interest which currently stands at 46% with Glengarry holding 54%.

The licence lies wholly within the boundaries of the Supplejack Pastoral Lease held by Mr R.J.Savage. Glengarry understands the land is not subject to any Native Title claims.

3. LOCATION AND ACCESS

Exploration Licence 9252 is situated approximately 100 kilometres north-north west of the Tanami gold mine and about 150 kilometres south west of the Lajamanu
Community. The licence is 50 kilometres west of the Supplejack Downs station homestead. Access to the area can be made by four-wheel drive vehicle from the track connecting the Tanami mine and Lajamanu, turning off 92 kilometres north of the Tanami Mine, thence travelling westerly past Supplejack Downs homestead along graded and ungraded tracks (Figure 1).

4. GEOLOGY

(Reilly and Doust, 1998)

4.1 Regional Geology

The Stake Range Joint Venture exploration licences cover areas within the Lower Proterozoic Tanami complex, a sequence of variably deformed fine to medium-grained clastic sediments (probably turbidites) with interbedded graphitic and chloritic shales, felsic tuffaceous sediments and “iron formations”. Basalts and quasi-conformable to discordant mafic to ultramafic intrusions are common locally in the succession. Historically, the stratigraphy has been described and subdivided simply into older Mt Charles Beds and younger Killi Killi Beds (eg Blake et al, 1979), the former commonly possessing highly magnetic sediments and mafic units in contrast to the subdued magnetic expression of the latter. Doust, Lipple and Wilkes, 1994 recognise basement rocks of probable Archaean age which unconformably underlie the Browns Range Group around the Browns Range Dome and Mt Charles Group elsewhere. The Killi Killi Group unconformably overlies the Mt Charles Group (Pearcey, pers. comm.), and is in turn unconformably overlain by several lower, mid and upper Proterozoic arenaceous sequences which were folded to various degrees before being extensively eroded.

The Tanami complex rocks have been deformed by a number of tectonic events to produce complex fold patterns in the Mt Charles Group and simpler east-west to northwest-southeast trending folds (which are commonly recumbent to the south) in the Killi Killi Group. The major deformational event is considered to be the Barramundi Orogeny, dated at around 1880 Ma (Page and Williams, 1988).

Granitic intrusion appears to have occurred during pre-, syn- and post-orogenic stages.

4.2 Tenement Geology

The exploration licence is covered by a thin veneer of Quaternary sands. In the north of the tenement this transported cover is up to 10 metres thick. Outcrops of Tertiary duricrust and bedrock are erratically exposed through the sand cover. A fault-bounded block of Middle Proterozoic Gardiner Sandstone occurs midway along the western side of the tenement, and other scattered outcrops of this unit occur towards its southern margin.

Outcrops of Tanami Complex metasediments occur mainly in the gridded area in the north-east of the tenement as well as in the south-west corner. Lithologies
encountered in vacuum drilling comprise a large proportion of generally undeformed, occasionally sheared mafic and mafic clays, mostly along the south-eastern part of the grid. Sandstone, siltstone, greywacke or lithic sandstone, chert and sericite schists are also encountered. There is weak to moderately abundant quartz veining. The stratigraphy appears to be oriented in a north-east south-west direction, and contains probable small scale folding. Structural trends within the Tanami complex rocks are generally north-easterly, sub-parallel to the main magnetic structural direction.

Aeromagnetic data indicate the existence of a moderately magnetic stratigraphy to the immediate west of the gridded area in the north of the tenement, with a north-easterly trending trough coincidental with an area where soil sampling has been undertaken. The north-easterly stratigraphic trend was confirmed by vacuum drill geology, and the mafic sequence outlined contains probable medium scale folding.

5. PREVIOUS EXPLORATION

The area was held as Exploration Licence 4831 by PNC Exploration (Australia) Pty Ltd from 1986 to 1991 and was covered by aeromagnetic and radiometric surveys. In 1990 Western Mining Corporation Ltd was invited to farm-in to the PNC ground and according to records conducted regional (800m by 800m) lag sampling over the area without obtaining any significant results. The ground was later applied for and held by Zapopan NL as Exploration Licence 8341 between December 1993 and January 1995. Glengarry has not acquired any records of exploration activities undertaken by Zapopan.

6. EXPLORATION 1995-98

Since granted in October 1995 the licence has been subjected to a number of exploration programs executed by Glengarry on behalf of the Joint Venture as detailed in Table 1.

<table>
<thead>
<tr>
<th>Year Ended</th>
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<td></td>
<td>Geological mapping, 1:50,000</td>
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<tr>
<td></td>
<td>Geological mapping, 1:10,000</td>
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<tr>
<td></td>
<td>Soil sampling; 452 samples</td>
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<td></td>
<td>Rock chip sampling; 22 samples</td>
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<tr>
<td>2 Oct 1998</td>
<td>Soil sampling; 220 samples</td>
<td>$44,003</td>
<td>$30,200</td>
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<td>Vacuum drilling; 218 holes, 784m</td>
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<td>2 Oct 1999</td>
<td>Data capture, digitising, interpretation</td>
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<td>$31,000</td>
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The location and extent of individual sampling and survey programs are shown in the Exploration Index Plan (Figure 2). All results have been reported in the relevant annual reports as listed in Section 11, References.

The lag sampling undertaken over portions of the tenement in 1996 located a zone of sporadic low level (max 20ppb) gold anomaly.

The ultra-detailed aeromagnetic survey carried out by UTS Geophysics in 1997 was flown over the northern portion of the licence in the vicinity of the lag gold anomaly. Geological mapping of the licence area at 1:50,000 scale, suggested that the depth of transported overburden is minimal in the vicinity. A local grid was established at approx 40° (AMG). This grid was mapped geologically at 1:10,000 scale and soil sampled at 100m x 100m. Several sporadic Au values up to 20.3ppb, with 6 samples of >2ppb Au resulted, and an associated As anomaly displaced approximately 150m to the north-west.

The soil sampling undertaken in 1998 within the grid area followed up sporadic anomalous Au values returned from the 1997 soil sampling programme. This soil sampling confirmed the presence of the original Au anomaly, with a maximum value of 15.25ppb Au (25m from the original 20.3ppb Au) and another 5 results of >2ppb Au.

Vacuum drilling in 1998 was undertaken to gain bedrock information in the area of the anomaly. Bedrock values of up to 24ppb Au were received in the area where the two high soil results were located. This bedrock anomalism has defined an apparent north-south trend across the host sequence. Two other weak isolated bedrock anomalies, 5 and 11ppb Au, exist northeasterly along the strike of the interbedded mafic and chert sequence. The “A” horizon vacuum results returned values of up to 28ppb in an area which coincides with the broader soil anomalous area.

7. EXPLORATION ACTIVITIES 1998-99

As noted in the opening summary, there were no exploration activities undertaken on the ground in EL 9252 during the 1998-99 field season. A lag and soil geochemistry program planned to be undertaken in the July-October period of 1999 had to be deferred as a result of severe economic constraints affecting the gold exploration industry at that time.

The opportunity was taken to review and upgrade all digital exploration records for the licence. Those records together with records of past and more recent exploration activity were subjected to on-going analysis and interpretation in association with similar work being applied to other ground being explored by the Joint Venture in the region.

A full set of digital data acquired to date for EL 9252 is included in this report as Appendix 1.
8. RECOMMENDATIONS

The bedrock anomalous located within an apparent north-south trend across the host sequence should be followed up to the south, where it may intersect a major north-easterly trending shear zone. (Reilly and Doust, 1998)

9 EXPENDITURE, 1998-99

Exploration expenditure incurred during the 1998-99 reporting period is tabulated in Table 2.

Table 2
EXPLORATION LICENCE 9252
EXPENDITURE SUMMARY 1998-99

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<td>Tenement rent</td>
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10. PROPOSED WORK PROGRAMME AND EXPENDITURE, 1999-2000

The work program submitted with the 1997-98 annual report was deferred as noted above. It is now proposed that the same program will be undertaken in 1999-2000, with the June-October period of 2000 being the most likely time to take advantage of climatic conditions and available logistics.

A programme of soil sampling on a 100 x 100 metre grid is proposed over the projected intersection of the Au anomalous bedrock with interpreted shear zone. Lag sampling at 200 x 200 metres is proposed over the four sub-blocks in the southern part of the licence which have not been explored to date. It is planned to collect 500 samples in the two localities. Samples will be analysed for gold, arsenic and other selected elements. A budget of $31,000 is proposed as detailed in Table 3 on the next page.
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<td>Administrative overheads</td>
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<td><strong>TOTAL</strong></td>
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11. REFERENCES

11.1 Annual and Partial Relinquishment Reports


Doust G, 1997; Second Annual Exploration Report, Stake Range Project (EL 9252) for the period 3 October 1996 to 2 October 1997, Report No TGJVS004; Glengarry Resources NL unpublished report.

Doust G, 1997; Relinquishment Report, Stake Range Project (EL 9252) for the period 3 October 1995 to 2 October 1997, Report No TGJVS005; Glengarry Resources NL unpublished report.


11.2 Bibliography


APPENDIX 1

DIGITAL DATA
Digital Data Held
GLENGARRY RESOURCES NL
EL9252 STAKE RANGE
ALL WORK FROM INCEPTION UP TO 28/10/99
SUMMARY OF DIGITAL DATA

FOUR FILES:

EL9252_WORKTODATE_GEOCHEM.XLS
CONTAINS ASSAYS AND LOCATIONS FOR 1077 SAMPLES
(SOIL, LAG AND ROCK CHIP)
LOCATIONS IN AMG COORDINATES, AMG ZONE 52 - AGD 84 DATUM
FILE FORMAT - EXCEL 97, COLUMN HEADINGS ARE SELF EXPLANATORY
RESULTS BELOW DETECTION LIMIT ARE STORED AS -VE DETECTION LIMIT

EL9252_WORKTODATE_LAB_JOBS.XLS
SUMMARY OF LAB JOB NUMBERS AND DATES FOR THE GEOCHEM SAMPLES.
FILE FORMAT - EXCEL 97, COLUMN HEADINGS ARE SELF EXPLANATORY

EL9252_WORKTODATE_DRILLCOLLARS.XLS
DRILL COLLAR DETAILS FOR 218 VACUUM HOLES.
LOCATIONS IN AMG COORDINATES, AMG ZONE 52 - AGD 84 DATUM
FILE FORMAT - EXCEL 97, COLUMN HEADINGS ARE SELF EXPLANATORY

EL9252_WORKTODATE_DRILLSAMPLES.XLS
ASSAY AND DEPTH DETAILS FOR 495 SAMPLES FROM THE VACUUM HOLES.
FILE FORMAT - EXCEL 97, COLUMN HEADINGS ARE SELF EXPLANATORY
RESULTS BELOW DETECTION LIMIT ARE STORED AS -VE DETECTION LIMIT