T A N A M I J O I N T V E N T U R E

ZAPOPAN NL

KUMAGAI GUMI CO LTD

KINTARO METALS PTY LTD

EXPLORATION LICENCE 6448

TANAMI DOWNS STATION

GRANITES-TANAMI AREA

NORTHERN TERRITORY

SECOND ANNUAL REPORT - 1991

THE GRANITES 1:250,000 SHEET SF 52-3

C O N T E N T S

F I G U R E S

A P P E N D I X

1. SUMMARY

A geological consultant was employed to appraise the general Tanami Downs area including EL6448.

Insofar as this licence is concerned the appraisal involved a geological assessment, rock chip sampling and ground magnetic traverses.

Rock-chip sampling did not return any gold anomalies.

Regionally the northern part of the licence area is considered favourable for hosting gold mineralization. A major north-west trending lineament cuts this area. Similar lineaments are associated with gold mineralization elsewhere in the Tanami-Granites region.

Further ground magnetics and geochemical sampling are recommended for the third year of the licence.

2. INTRODUCTION

Exploration Licence 6448 was granted to Zapopan NL, 50%, Kumagai Gumi Co Ltd, 30%, and Kintaro Metals Pty Ltd, 20% for a period of 6 years from 22 May 1989. The three companies comprise the Tanami Joint Venture (TJV).

The licence covers an area of 242sq km, equivalent to 75 blocks, and is situated on Tanami Downs Pastoral Lease, 50km south-west of the Tanami Mine. The shape of the licence is that of an open 'z' with a north-south trending central portion (Figure 1).

The MacFarlanes Peak Range extends across the northwest part of the licence area and the northern slopes of the Muriel and Inningarra Ranges extend across the southern part.

Access is gained via various station tracks leading westwards from Tanami Downs homestead.

A brief outline of previous geological work, local geology and landforms is to be found in the first annual report. Year 1 exploration comprised data acquisition and interpretation, laterite and rock-chip sampling.

This report details exploration completed during the second year of the licence which comprised a geological assesment of the area, rock-chip sampling, and some preliminary ground magnetic traverses.

3. PREVIOUS WORK

In the first year of EL6448 the following exploration was completed:

- acquisition of colour aerial photography over the licence area.
- compilation and preliminary interpretation of available open-file reports, airborne magnetic data, aerial photography and Landsat imagery.
- assessment of the area using a prospectivity index.
- reconnaissance geochemical Sampling comprising 10 laterite samples and 51 rock chip samples.

This work is detailed in the first annual report for EL6448.

4. EXPLORATION COMPLETED IN YEAR 2

4.1 Geological Assessment and Rock-Chip Sampling

A geological consultant was employed to appraise the general Tanami Downs area including EL6448. By the time of this report no formal report had been received. However, the following notes are pertinant to the licence area.

Early Proterozoic Mt. Charles Beds intruded by Carpentarian-age granites have been intensely deformed and sheared. The Permian-age Pedestal Beds, comprising arenites and argillites uncomformably overlie both granite and the Mt. Charles Beds.

3km north-east of MacFarlanes Range, the Mt. Charles Beds are well exposed. Silicate-facies Banded Iron-Formation (BIF) and quartz-porphyry pinch and swell up to 100m wide in a package of rocks comprising predominantly siltstone. Tight, upright folding and local isoclinal folding together with intense 120 degree shearing is evident. The rocks have suffered multiple deformation and a full understanding will only come from detailed mapping.

The silicate facies BIF horizon is best developed 3Km northeast of MacFarlanes Bore around the nose of a near vertical south-east plunging anticline, the eastern limb of which trends North in an en echelon pattern (due to folding) into the adjacent licence.

The rocks are very weakly magnetic, having a somewhat subtle response with ground magnetometer traverses and virtually no response from a pencil magnet.

Twenty-eight (28) rock-chip samples (MR10-MR37) from the BIF-porphyry package on the eastern limb of the anticline were submitted for Au only analysis at the Tanami Mine laboratory. Descriptions and results are appended (Appendix I). Sample locations are shown on Figure 2.

On the western limb of the anticline, the BIF sequence can be traced for only a short distance before it disappears under aeolian sand and alluvium.

4.3km east of the BIF outcrops mentioned above is an exposure of granite which is sheared and foliated. The foliation trends 060 degrees and dips 36 degrees south-east. Tension gashes striking 125 degrees and dipping 75 degrees south-west comprise late-stage vein quartz crystals growing into cavities. Some slickenslides occur. Two samples (MR4 and MR5) were collected (Appendix I).

8km east of the BIF outcrops there is another granite outcrop which is also sheared and probably situated in an anticlinal core. Silicate-facies BIF dips west at 45 degrees, and can be traced for only 70 metres before disappearing under alluvium. Samples MR6 to MR9 were collected (Appendix I).

A large exposure of Mt. Charles Beds, shown on the available geological map as being 10Km east-south-east of MacFarlanes Bore was found to be laterite and Permian-age scree and outcrop.

Part of the consultants' brief is to re-examine all available regional data in light of the increasing knowledge of the regional stratigraphy, regional structure, controls on gold mineralization in the region, better understanding of the role of magnetics etc. The data include aerial photography, NTGS airborne magnetics, Landsat and NASA photography. This work is on-going and plans will not be available until completion in the third year of the licence.

4.2 Ground Magnetics

In order to locate the magnetic anomalies showing on the airborne magnetic data (see Year 1 Report) on the ground, it was decided to run several ground magnetic traverses to the west, across, and east of the BIF-siltstone sequence mentioned above. Due to inclement weather conditions this work did not commence until late in the licence year.

A magnetic high was located 1Km east of the BIF outcrops under alluvium and also to the west BIF outcrops. This work was ongoing at the end of the licence year. Due to priorities at the Tanami Mine it was temporarily suspended and will be continued early in the third year of the licence.

5 **EXPENDITURE**

Geological Consultants	$8,204.17
Travel and Accommodation	4,000.00
Consumables	338.30
Salaries/Wages	5,393.00
Geophysics	128.57
Land Councils	141.43
Drafing/Printing	107.49
Administration	1,831.29
	$20,144.25

6. FORWARD PROGRAMME

Will comprise completion of the ground magnetic traversing to properly define magnetic lithologies beneath sand and alluvial cover, laterite and BLEG Sampling across magnetic lithologies, and completion of regional studies.

Expenditure is estimated to be $15,000.00.

520000E 530000E 540000E 550000E 560000E 570000E 580000E 590000E

7750000N 7740000N 7730000N 7720000N 7710000N 7700000N

53344 53345 53343 53342 53341 53350 53349 53348 53347 53346 53351

Numerous rock chip traverses Sample nos. 54027–71

MR4 MR5

MR10 – MR37

MR6 – MR9

*MACFARLANES PEAK BORE

EL 6448

QUESTION MARK BORE

FERDIES BORE

HOMESTEAD BORE

TANAMI DOWNS

WILD POTATO BORE

Sand Dunes

Sand Dunes

OFFICER HILL

MURIEL RANGE

INNINGARRA RANGE

LEGEND

× Laterite

CR91/317

TANAMI JOINT VENTURE

Scale:	Compiled:	Date:
1:100 000	Drawn: C.S.M.	FIGURE 2

EL 6448

ROCK-CHIP SAMPLE LOCATIONS

EL 6448

EL 6449A

EL 2371 A

EL 2370

SMOKE HILLS

EL 5421

P

SEL 6835

21.6.91

Numerous Small Claypans

Claypan

Saltpan

MCS 148 – 153 (1 to 6)

MCS 144 – 147 (1 to 4)

EL 6446

MCS 124 – 143 (1 to 20)

55/5

55/6

EL 7037

MLS 154

EMPS 95

EMPS 94

EMPS 93

EL 2367

EL 7055

EL 7056

MCS 70 – 78 1 to 9

MCS NTS 518

OFFICER HILL

EL 6938

MUREL RANGE

EL 6448

P

MURDOCH CLIFFS

EL 5422

EL 5423

PEDESTAL HILLS

Several Small Claypans

FIGURE 1

APPENDIX I

EL 6448 - Rock-chip Descriptions and Results

Sample No.	Description	Au (g/t)
MR 1	Bleached, quartz porphyry	0.01
MR 2	Bleached, quartz porphyry with ferruginous joints	0.01
MR 3	Silicate-facies BIF, chert + Mn/Fe staining	0.01
MR 4	Sheared granite with limonite and ferruginous boxworks	0.01
MR 5	Sheared granite with specular hematite and quartz	0.01
MR 6	Silicate-facies BIF	0.01
MR 7	Sheared granite, ferruginous, bleached and kaolinitic	0.01
MR 8	Ferruginous granite	0.01
MR 9	Silicate-facies BIF	0.04
MR10	Quartz and brecciated sediment	0.01
MR11	Ferruginous, sheared siltstone	0.01
MR12	Silicate-facies BIF	0.01
MR13	Silicate-facies BIF	0.03
MR14	Silicate-facies BIF	0.05
MR15	Silicate-facies BIF	0.07
MR16	Silicate-facies BIF	0.03
MR17	Silicate-facies BIF	0.02
MR18	Silicate-facies BIF	0.01
MR19	Silicate-facies BIF	0.07
MR20	Silicate-facies BIF	0.01
MR21	Silicate-facies BIF	0.02
MR22	Silicate-facies BIF	0.01
MR23	Silicate-facies BIF	0.01
MR24	Silicate-facies BIF	0.01
MR25	Silicate-facies BIF	0.01
MR26	Silicate-facies BIF	0.01
MR27	Silicate-facies BIF	0.03
MR28	Quartz-eye porphyry	0.01
MR29	Quartz-eye porphyry + BIF	0.01
MR30	Silicate-facies BIF	0.03
MR31	Ferruginous siltstone	0.03
MR32	Silicate-facies BIF	0.04
MR33	Silicate-facies BIF	0.02
MR34	Silicate-facies BIF	0.02
MR35	Silicate-facies BIF	0.02
MR36	Silicate-facies BIF	0.03
MR37	Silicate-facies BIF	0.01