



**TANAMI**  
**EXPLORATION NL**

ABN 45 063 213 598

**SIXTH**  
**COMBINED**  
**ANNUAL REPORT**

**EXPLORATION LICENCES**  
**8696, 8697, 9442 and 9449**

**LAKE MACKAY PROJECT**

For Year Ending 21 August 2008

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**Distribution:**

- o Department of Primary Industry, Fisheries & Mines (1)
- o Central Land Council (1)
- o Tanami Gold NL - Perth (1)

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### FILE

### DESC

Report by Minerex Services.doc	Thin Section Descriptions
LM_DH_Coll_Thin Sect_Sampled.xls	Collars of the holes from which thin section samples were taken
Geophysical Survey Grid Coordinates.xls	Coordinates of the Ground Survey Grid
Tekapo_Ground_Mag_Data_2008.zip	Raw Ground Magnetic Data
Tekapo_Ground_Gravity_Data_2008.xls	Raw Ground Gravity Data

## 1.0 SUMMARY

The Lake Mackay Project is located approximately 460km WNW of Alice in the western Arunta region (**Figure 1**). The project comprises four granted Exploration Licences - EL 8696, 8697, 9442 and 9449 (**Figure 2**). All tenements are registered to Tanami Exploration (TENL), a wholly owned subsidiary of Tanami Gold NL (TGNL), a publicly listed company.

Previous exploration has outlined several prospects within the Lake Mackay Project area. In the first two years of tenure previous managers Newmont Gold Exploration Pty Ltd (Newmont Gold) defined the Taupo, Te-Anau and Manapouri anomalies. Geochemical sampling and RAB drilling by TENL in the third year identified the Whakatipu, Tekapo and Ohau anomalies. An Aircore drilling program at the **Tekapo** prospect in Year 4 targeted gossanous ironstone and returned several promising intersections peaking at 16 metres at 3.4g/t Au from 29 metres in LMA133. In Year 5 an aircore drilling, lag and rock chip sampling program followed up the mineralisation discovered in Year 4.

Exploration during the year included a review, a petrographical investigation as well as a combined ground magnetic and gravity survey. The exploration activities are listed below in **Table 1**.

**Table 1: Year 6 - Summary of Exploration**

Tenement	Tenement No	Geological Review	Geophysics	Petrology
Redvers	EL 8696	Review of nature of mineralisation	-	-
Redvers North	EL 8697		-	-
Superior	EL 9442		Ground Magnetism & Gravity Survey	
Victoria	EL 9449		Ground Magnetism & Gravity Survey	7 Thin Sections
<b>TOTAL</b>				<b>53 line km, 31 lines</b>

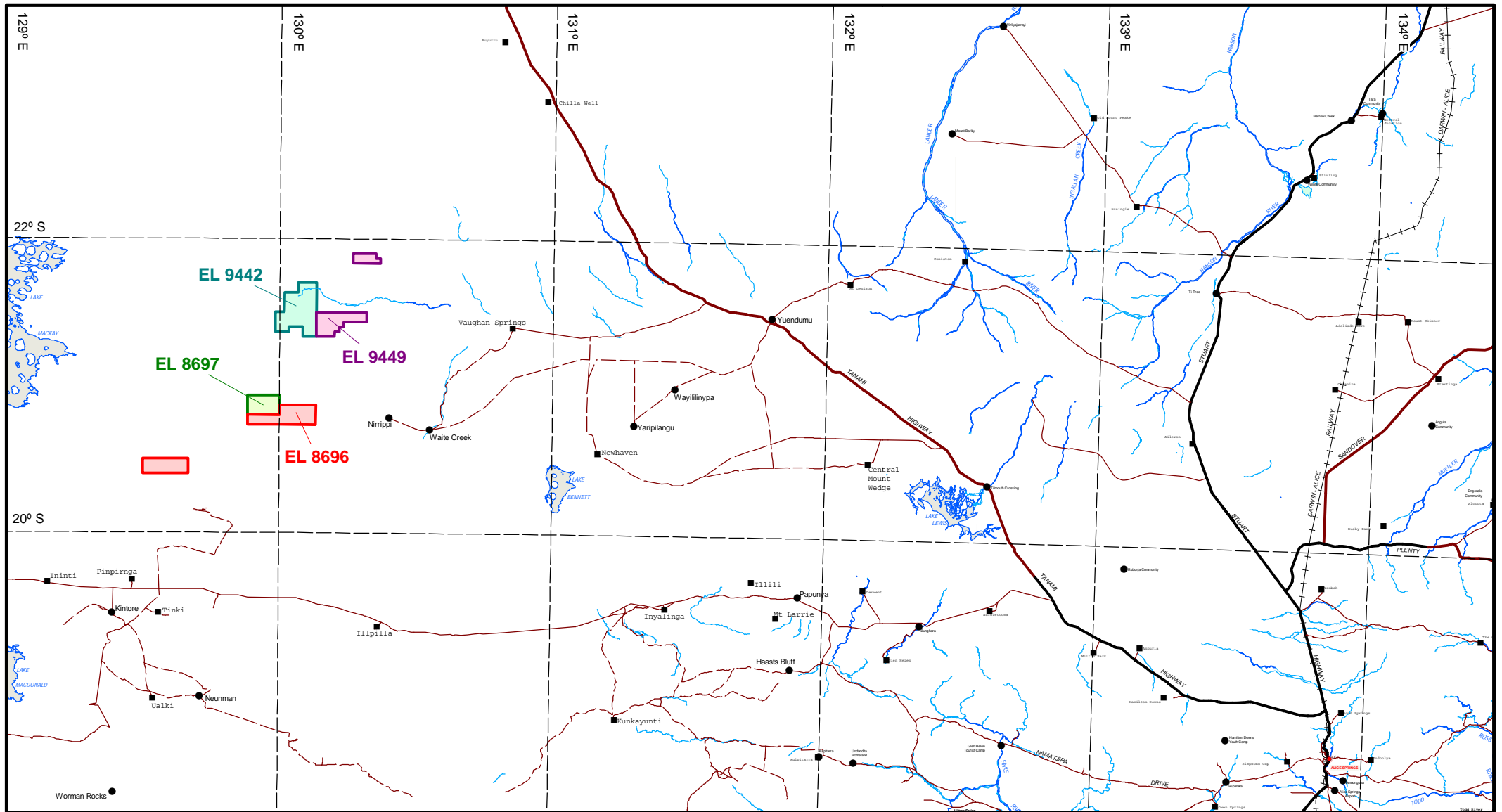
The review concluded that the exploration in the lake Mackay project area should be mindful of IOCG deposit models, and the possibility of encountering either disseminated or massive sulphides.

The interpretation of the geophysical images indicates the following.

- In the vicinity of the Tekapo gossan are some NW-SE structures in the magnetic response, which undergo a NS offset. There are localised magnetic lows near the north and south ends of the mapped Tekapo gossan exposure.
- The residual Bouguer Gravity image shows a localised anomaly of approximately 0.20 mGal at 617100E/7537800N, immediately east of the Tekapo gossan. The NW-SE trends apparent in the magnetism are weakly duplicated in the gravity, but a couple of NE-SW trends are more obvious across the Tekapo prospect area.
- With the exception of the above anomalies there are no other strong magnetic or gravity responses at depth, which are directly associated with the Tekapo gossan area.

The petrological investigation identified the following.

- In four thin sections a sillimanite gneiss and in one an altered granite was observed.
- One section revealed massive pyrite with scattered blebs of fine gold.
- In one section two differing chips exposed anhedral quartz and opaques as well as quartz aggregates with Fe-oxide veinlets, fine visible gold and minor muscovite.



**FIGURE 1**

ORIGINATOR:  
J. Rohde

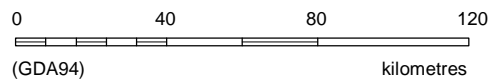
DATE:  
Oct 2008

DRAWN:  
M.H.Bailey

**LAKE MACKAY**

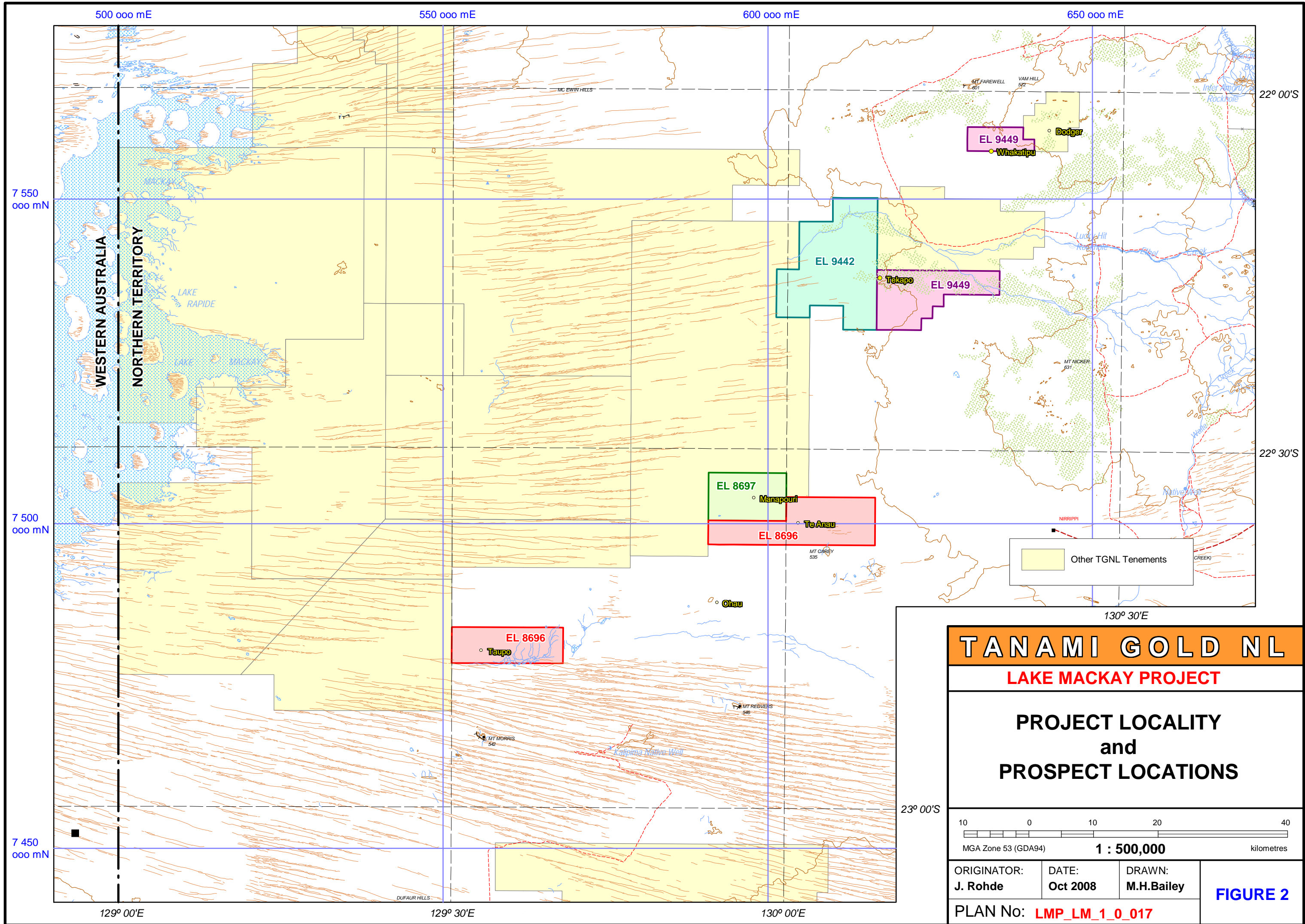
**TANAMI GOLD NL**

1 : 2,000,000



**PROJECT LOCATION**

PLAN No: **LMP\_LM\_1\_0\_016**



**TANAMI GOLD NL**

**LAKE MACKAY PROJECT**

**PROJECT LOCALITY  
and  
PROSPECT LOCATIONS**



ORIGINATOR: J. Rohde	DATE: Oct 2008	DRAWN: M.H.Bailey
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PLAN No: **LMP\_LM\_1\_0\_017**

**FIGURE 2**

## 2.0 INTRODUCTION

The Lake Mackay project is centred approximately 460km WNW of Alice Springs (**Figure 1**). Access to the Project area is via the Tanami Road, then along the Central Mount Wedge-Newhaven-Nyripi Road. From Nyripi, access is via graded tracks to Emu Bore (14km) and the Lake Mackay Camp (further 53km). The camp is located within EL 8697, approximately 200km west of Yuendumu (**Figure 2**). Graded tracks cleared by previous explorers, TENL and the Nyripi community allow access within the project.

This report provides details of exploration during the fifth year of tenure carried out by TENL on the Lake Mackay tenements.

## 3.0 TENURE

The Lake Mackay project comprises four granted Exploration Licences. Tenement details for all granted licences covered in this report are detailed below in **Table 2**. The registered holder is TENL, a wholly owned subsidiary of TGNL.

**Table 2: Tenement Details**

Tenement	Tenement No	Blocks	Km <sup>2</sup>	Grant Date	Expiry	Covenant to Aug 2008
Redvers	EL 8696	76	244	22 Aug 02	21 Aug 10	\$45,500
Redvers North	EL 8697	28	90	22 Aug 02	21 Aug 10	\$22,750
Superior	EL 9442	72	231	22 Aug 02	21 Aug 10	\$47,000
Victoria	EL 9449	48	154	22 Aug 02	21 Aug 10	\$47,000
<b>TOTAL</b>		<b>224</b>	<b>719</b>			<b>\$162,250</b>

The Lake Mackay project tenements were previously subject to a Joint Venture Agreement with Newmont Gold Exploration Pty Ltd (Newmont Gold) and Newmont NFM (Newmont). Newmont withdrew from the Joint Venture in 2004. Subsequently TENL has managed exploration on the tenements as 100% holder.

A Deed for Exploration with the Central Land Council (CLC), acting under instructions from the Traditional Owners, was signed on the 18 June 2002. The agreement allows for active exploration programs to be conducted, and also subsequent mining operations, subject to conditions. Inaugural approval of access and proposed Work Programs was granted by the CLC on 15 September 2002 (Whittaker et al, 2004). An on-ground clearance for follow up drilling was conducted by the CLC and Traditional Owners in September 2006. CLC approval for Phase 1 of the Tekapo geophysical survey was received on 7 May 2008.

## 4.0 GEOLOGY

The Lake Mackay Project is situated on the 1:250,000 Lake Mackay (SF52-11) map sheet, an area comprising less than 1% exposed bedrock. TGNL carried out a 1:250,000 bedrock interpretation in 2003 (Rohde, 2004). Outcrop mapping by the Northern Territory Geological Survey (NTGS) and drilling by Newmont were combined with aeromagnetics, Landsat and gravity data to interpret the lithology and structure beneath covered areas.

### 4.1 Regional Geology

The Lake Mackay area is part of the Arunta region, a Proterozoic domain covering a large part of central Australia. The Arunta region is very complex due to the superposition of numerous depositional, magmatic, metamorphic and tectonic events. Recent NTGS geological mapping of parts of the Arunta region has been combined with whole-rock elemental geochemistry and zircon U-Pb geochronology to assist with unravelling the lithostratigraphy and geological history of the area. The most recent reviews of the regional implications of this work are presented by Scrimgeour (2003, 2004).

Of interest to gold explorers is whether the geology in the Tanami region, which hosts >10 million oz Au, continues south into the Arunta region. The case for lateral equivalence between the two regions was originally proposed based on gross lithological similarities (Blake et al., 1979), and such correlations have been strengthened based on geophysical continuity and the similarities of depositional and magmatic systems (Green et al., 2003). In general, the Lake Mackay area comprises rocks which are interpreted to correlate with the Au-hosting units in the Tanami region.

The Lake Mackay area comprises strongly deformed and variably metamorphosed siliciclastic sediments which were deposited between 1840 and 1800Ma. These metasedimentary rocks have been assigned to the Lander Group, which is interpreted to be laterally equivalent with the Tanami Group. A regional lithostratigraphy has not been established in the Lander Group due to the lack of continuous outcrop and marker horizons, the high metamorphic grade of many areas and extensive deformation. In some areas, a local lithostratigraphy has been established (Donnellan and Johnstone, 2003), but it has not been possible to extend such local divisions with great confidence.

The Lake Mackay area is interpreted to be part of the lower Lander Group based on geochronological constraints and the presence of putative volcanic-dominated lithologies (linear highly magnetic units). Such constraints are not well established, but if correct the Lake Mackay area would most closely correlate with the lithostratigraphic units, which hosts The Granites and Dead Bullock Soak Au deposits in the Tanami Region.

### 4.2 Local Geology

The Lake Mackay area comprises two distinct tectonic elements; the Palaeoproterozoic Aileron Province and the Neoproterozoic-Palaeozoic Centralian Superbasin (Walter and Whittaker, 2003). The rocks of the Aileron Province form the basement to the Centralian Basin.

In the **Aileron Province**, the oldest units comprise a succession of interbedded sandstone, siltstone and mudstone which has been intensely deformed and metamorphosed. These



metasediments are considered part of the Lander Group (Yuendumu Supergroup), which extends over much of the northern Arunta region. The Lander Group is generally considered to be part of a very large depositional system with vast regions of probable turbiditic sediments. There are numerous folded and metamorphosed mafic units within the Aileron Province, but it is uncertain whether they are volcanic, and so part of the Lander Group, or later sills. Similar units are known in the Tanami Region. SHRIMP U-Pb dating of detrital zircon from several samples of the Lander Group in the greater Lake Mackay area have interpreted maximum deposition ages of <1860Ma.

In the Lake Mackay area, the Lander Group is metamorphosed from lower greenschist to granulite facies, with granulite and amphibolite facies metasediments confined to discrete domains in the northeast of the area. SHRIMP U-Pb analyses of zircon rims from these granulite-facies metapelites define a significant population at  $1806 \pm 7$  Ma, which is interpreted to be the age of metamorphism. This correlates with the Stafford Event described from further east in the Aileron Province, suggesting that this is an important and widespread event.

In the northeast of the Lake Mackay area, there are siliclastic-dominated metasediments of the Nicker beds and **Reynolds Range Group**. These successions postdate the Stafford Event and were probably metamorphosed and deformed during the Yambah Event at about 1780-1770Ma. Metamorphic grade varies in these units from greenschist to amphibolite facies. The Reynolds Range Group (1800-1780Ma) unconformably overlies the Lander Group, though most exposures comprise tectonic slivers preserved adjacent to faults. The Reynolds Range Group comprises a basal quartzite (Mount Thomas Quartzite) and an overlying siliclastic-dominated succession with minor calc-silicates (Pine Hill Formation). Other units within the Reynolds Range Group are unknown in the Lake Mackay area. The Reynolds Range Group has a distinctive strong linear magnetic signature and tracing these features from known outcrop suggests the Reynolds Range Group may be more extensive under aeolian cover. The Nicker beds are only known from immediately north of the Ngalia Basin and are more quartz-rich than the Lander Group. An intercalated felsic volcanic has an interpreted magmatic age of  $1772 \pm 5$  Ma (SHRIMP U-Pb zircon age).

There are numerous granite bodies in the Lake Mackay area that probably correlate with the 1820-1790Ma granites from the northern Aileron Province, the 1770-1760Ma Carrington Suite and the 1570Ma Southwark Suite. A biotite granite beneath the Vaughan Springs Quartzite in the southeast of the Lake Mackay area has a poorly constrained SHRIMP U-Pb zircon age of  $1758 \pm 21$ Ma and is considered to belong to the Carrington Suite. A weakly to moderately deformed garnet-bearing granite (Rapide Granite) in the northwest of the Lake Mackay area has an interpreted magmatic age of c.1600Ma, and so may be part of the Southwark Suite, but also contains significant c.1800Ma zircon possibly indicating an earlier magmatic phase. Megacrystic and porphyritic biotite granite with localised shearing on the eastern margin of Lake Mackay is interpreted on field characteristics to belong to the Southwark Suite. It has an interpreted SHRIMP U-Pb magmatic age of c.1520Ma, and so is the only known granite of this age in the Arunta region. This may indicate that the Southwark Suite was intruded over the 50 my period from 1570-1520Ma, or this granite could be part of a younger, discrete event. Although no 1820-1790Ma granite has been dated in the immediate area it is likely that granite of this age, which is widespread to the north of the Lake Mackay area, extend into the Lake Mackay area. In the southern part of the Lake Mackay area, there are scattered exposures of Vaughan Springs Quartzite, the basal unit of the Neoproterozoic to Palaeozoic Ngalia Basin, which is part of the Centralian Superbasin.

## 5.0 PREVIOUS EXPLORATION

### 5.1 Year 1 and 2

Exploration in the first year of tenure was carried out by Newmont and in the second year of tenure by Newmont and TENL. Newmont carried out RAB drilling and geochemical sampling in 2004, while TENL completed a data assessment and reconnaissance on the Taupo, Te-Anau, Manapouri and Redbull anomalies.

Newmont took the approach of quickly exploring the vast Lake Mackay area, which is extensively covered by aeolian sand. Initially, the public domain radiometric data were processed to highlight areas where sand cover was shallow and surface sampling could successfully test for basement mineralisation. The radiometrics showed that despite <5 % outcrop, the sand cover was suitably thin over a third to half of the tenement area. Extensive surface sampling was then undertaken with 849 rockchip, 1163 soil, 3397 lag and 113 drill-derived stony lag samples taken. Numerous anomalies were identified from this surface sampling and the most significant ones were followed up with 228 vacuum and 235 RAB holes. The Taupo, Manapouri and Te Anau prospects were outlined (**Figure 2**).

The best surface sample results from the Lake Mackay tenements were all from the **Taupo** area. Taupo is located in the southwest corner of EL 8696 and was the highest ranked of Newmont's prospects. Fifteen surface samples returned Au values >100ppb from an area 2x1km, including a 1.2g/t Au rockchip. Follow up vacuum (97 holes) and RAB (174 holes) drilling over an area of 8x5km produced disappointing results with no gold values >0.5g/t.

**Manapouri** is situated in the south eastern portion of EL 8697 and was discovered on a 68ppb Au lag sample collected by Newmont (repeated at 74.1ppb Au). Five follow up RAB / vacuum holes across the anomaly produced no significant results. The chips are still present and reveal an extremely weathered laterite profile with amphibolite, metasedimentary schist and vein quartz basement.

**Te Anau** is a 15km long east-west-trending +60ppm arsenic anomaly in the northern central portion of EL 8696, about 6km south of the Lake Mackay Camp (**Figure 2**). The anomaly may coincide with the western extension of the Waite Creek Fault or a related structure. Eight lines of vacuum (93 holes) and RAB (32 holes) produced no gold anomalies.

TENL undertook a review of the Lake Mackay tenements in 2004 and generated new drill targets. The discovery of Dodger by TENL in the northeast of the Lake Mackay area provided a new mineralisation style untested by Newmont.

### 5.2 Year 3

During the third year RAB drilling and two phases of surface sampling were undertaken in the Lake Mackay project area.

**RAB drilling** tested the projected southwest extension of the Dodger gold prospect on an adjacent tenement - EL 8434 'Nicker'. This program extended onto EL9449 'Victoria' with a total of 51 holes for 1,733 metres being drilled.

RAB results returned 11 samples with >10ppb Au and a maximum of 42ppb Au. A field duplicate of this sample returned 72ppb Au. Gold anomalism is associated with quartz veining in low-grade quartz-rich metasediments (Lander Group), which is consistent with the preferred gold model for the region. Most of the samples were from saprolite and may be depleted in gold. Anomalous copper was returned in samples both associated and not associated with gold anomalism. No significant lead anomalism (Dodger association) was detected. The anomalous area identified by the drilling has been named **Whakatipu**.

Two phases of **surface sampling** were completed during Year 3 comprising a total of 391 lag samples and 107 rockchip samples. The first program comprised follow-up sampling of 14 areas identified from Newmont's results, but not subsequently retested. Areas were defined according to anomalous Au, As, Cu, Pb and Zn (top ten percentile). Very positive results were returned from the lag samples during this helicopter-based program including the identification of two new prospects – **Tekapo** and **Ohau**. Another 11 samples were also anomalous in either As, Bi, Cu, Pb or Zn and require further investigation. No significant rockchip results were returned.

The second phase of sampling included retesting of the **Ohau and Tekapo** anomalies and the **Taupo** area. The aim of this sampling was to constrain the host of mineralisation through bias sampling of lag (analysis of individual components), locate any outcrop around anomalies and increase the footprint size of the original anomaly by further sampling.

At **Taupo**, the results show that tourmaline-bearing quartz lag is very anomalous in Au, with a best assay returned of 0.3ppm Au. Relative to tourmaline-absent massive vein quartz, the tourmaline-bearing vein quartz is also elevated in Bi, Cu, Pb and Zn. The ferruginous gravel component, however, is even more enriched in As, Cu, Pb and Zn.

At **Ohau**, bias sampling was very unsuccessful (2 sites for 8 samples) with no discrimination of components possible. Two additional sites near Ohau have been shown to be anomalous.

At **Tekapo**, Cu-Au mineralisation was shown to be associated with gossanous ironstone, interpreted to be after massive pyrite-pyrrhotite-arsenopyrite-chalcopyrite-silica rock. Nearby subcrop and the large size of fragments indicate the anomaly is in situ. Systematic sampling away from the main Tekapo anomaly failed to locate any more gossan-massive sulphide, but did uncover significant Cu-Au anomalies (229ppb Au, 140ppm Cu) over 500m away. Best rock chip results were 750ppb Au, 1213ppm Cu in LMK112 and best lag results 693ppb Au, 1055ppm Cu in LML060.

### 5.3 Year 4

In the fourth year of tenure TENL carried out further rock chip and lag sampling at **Taupo, Ohau, Manapouri and Tekapo**, and RAB / Aircore drilling at **Ohau, Taupo, Tekapo and Whakatipu**. A summary of all exploration is listed below in **Table 3**. A total of 17 rock chip samples and 551 lag samples were taken as well as a total of 54 RAB holes completed for 2,149 metres and 160 Aircore holes for 10,018 metres. Best drill results are listed in **Table 4**.

**Table 3: Year 4 - Summary of Exploration**

Tenement	Tenement No	Prospect	Rock Chip Sampling	Lag Sampling	RAB Drilling	Aircore Drilling
Redvers	EL 8696	Taupo, Ohau	12 samples	460 samples	10 holes, 447 m	123 holes, 7,251m
Redvers North	EL 8697	Manipouri	-	86 samples	-	-
Superior	EL 9442	Tekapo	1 sample	1 samples	14 holes, 593 m	17 holes, 1,247 m
Victoria	EL 9449	Tekapo, Whakatipu	4 samples	4 samples	30 holes, 1,109 m	20 holes, 1,520 m
<b>TOTAL</b>			<b>17 samples</b>	<b>551 samples</b>	<b>54 holes, 2,149 m</b>	<b>160 holes, 10,018 m</b>

A short program of follow-up rock chip and lag sampling at **Tekapo** increased the size and tenor of the original anomaly. Significant gold anomalism from lag sampling was encountered including:

- 3,126ppb Au, 1621ppm As and 747ppm Cu (LML425)
- 1,382ppb Au, 1208ppm As and 460ppm Cu (LML426)
- 761ppb Au, 2627ppm As and 3941ppm Cu (LML118)

The gold mineralisation is associated with a gossanous ironstone that crops out sporadically over a strike length of approximately 450m on a NNW-SSE strike.

A subsequent aircore drilling program at the **Tekapo** prospect targeted the gossanous ironstone. Drill assays returned several intersections peaking at **16 metres at 3.4g/t Au from 29 metres** in LMA133 (**Table 4**). Drilling also returned intercepts of 3metres at 1.8g/t Au from 10 metres and 2 metres at 2.0g/t Au from 22 metres in a drill hole locate 240m to the south. The drilling program at Tekapo also comprised wide-spaced step-out drilling which returned weak anomalism along strike of the Tekapo ironstone.

At **Taupo** a detailed surface geochemical sampling program was undertaken aimed at identifying the source of anomalism and extending/improving anomalism to produce drill targets. The results of the program did not identify any new areas of surface anomalism.

Subsequently a program of RAB / aircore drilling at Taupo was undertaken to test beneath regolith cover for possible extensions to mineralisation in two areas, returning numerous intercepts of weakly anomalous gold peaking at 3m @ 0.136 g/t Au from 76m (**Table 4**). Wide-spaced scout drilling was also undertaken where transported regolith cover precluded surface geochemical sampling as a first pass test.

The **Ohau** prospect is defined by a lag geochemistry gold-arsenic anomaly peaking at 102ppb Au. In the fourth year of tenure a follow-up lag sampling program was undertaken, followed by an aircore drilling program. Drilling beneath the interpreted E-W strike of the peak surface lag anomaly returned a best intercept of 2m at 0.45g/t Au from 32m (**Table 4**).

At **Whakatipu** an infill RAB drilling program was undertaken to test a semi-contiguous gold anomaly defined by wide-spaced scout drilling in the previous year. The drilling returned a best result of 8m@44ppb Au from 32 m.

Table 4: Year 4 - Lake Mackay RAB and Aircore Drilling Results (&gt;0.1g/t Au)

Hole_ID	Prospect	From	To	Width	Au ppm	Intercept
LMA0046	Taupo	76	79	3	0.136	3m at 0.136 g/t
LMA0087	Ohau	56	60	4	0.18	4m at 0.18g/t Au
LMA0088	Ohau	32	36	4	0.048	4m at 0.048g/t Au
LMA0089	Ohau	32	34	2	0.45	2m at 0.45g/t Au
LMA0124	Tekapo	10	13	3	1.79	3m at 1.79g/t
LMA0124	Tekapo	22	24	2	2.01	2m at 2.01g/t
LMA0125	Tekapo	23	24	1	0.46	1m at 0.46g/t
LMA0131	Tekapo	24	28	4	0.34	4m at 0.34g/t
LMA0132	Tekapo	40	42.	2	0.14	2m at 0.14g/t
LMA0133	Tekapo	29	45	16	3.42	16m at 3.42g/t

#### 5.4 Year 5

In the fifth year of tenure TENL carried out further Aircore and RAB drilling, lag sampling and rock chip sampling at the **Tekapo** prospect area to follow up the mineralisation discovered in Year 4. One metre re samples were conducted over any anomalous gold composite intervals and assayed for gold, arsenic, cobalt, copper, iron, manganese, lead and zinc.

A summary of all exploration is listed below in **Table 5**.

Table 5: Year 5 - Summary of Exploration

Tenement	Tenement No	Rock Chip Sampling	Lag Sampling	RAB Drilling	Aircore Drilling
Redvers	EL 8696	-	-	-	-
Redvers North	EL 8697	-	-	-	-
Superior	EL 9442	14 samples	98 samples	-	10 holes, 941 m
Victoria	EL 9449	-	-	1 hole, 14 m	22 holes, 1,952 m
<b>TOTAL</b>		<b>14 samples</b>	<b>98 samples</b>	<b>1 hole, 14 m</b>	<b>32 holes, 2,893 m</b>

Encouraging copper assays were returned, including wide zones of highly elevated copper (+1000ppm) with a best intercept of 4m at 2.6% Cu from 49m (peaking at 1m at 5.1% Cu from 50m) in TKA0022, where strong malachite / chrysocolla was observed. Coincident gold mineralisation in this zone was subdued with a best assay of 1m at 0.28g/tAu from 47m.

The above drilling was supplemented by a geochemical sampling program that included a step-out systematic lag sampling on 400 x 100m spacing and rockchip sampling. A total of 98 lag samples and 14 rock chip samples were taken. The peak assay of 32.6g/t Au was from rock chip sample LMK142.

Approximately 2.5km north along strike of Tekapo another zone of gossanous ironstone was identified in weathered metasediments. The outcrop was rock chip and lag sampled, and drilled with one RAB hole for negative results. Later interpretation identified the outcrop lacks quartz veining and breccia and the outcrop probably represents ferruginous lateritic duricrust.

Overall mineralisation was observed in eight holes with a best intercept of 3m @7.27 g/t Au in TKA007. A summary of the best gold mineralisation encountered is listed below in **Table 6**.

**Table 6 Tekapo Prospect Aircore Drilling (1m re sample results)**

Hole Id	From	To	Width	Grade	Intercept
TKA0001	32.00	33.00	1.00	0.74	1m @ 0.74 g/t
TKA0001	39.00	41.00	2.00	0.91	2m @ 0.91 g/t
TKA0001	52.00	53.00	1.00	0.51	1m @ 0.51 g/t
TKA0002	46.00	47.00	1.00	0.74	1m @ 0.74 g/t
TKA0007	14.00	17.00	3.00	7.27	3m @ 7.27 g/t

## 6.0 EXPLORATION COMPLETED 2008

### 6.1 Geological Review

Tanami completed a comprehensive review in February 2008 with the objective to provide an outline of the nature of the mineralisation at the **Tekapo** prospect, and suggest future means of advancing the exploration effort in the Lake Mackay package so as to promote the discovery of a significant resource. The memorandum discussed the questions of what kind of deposit system Tekapo represents, and to which deposit model does Tekapo belong. It concluded that the balance of evidence suggests that Tekapo is an IOCG-style deposit, although it is not typical – general Fe levels (although not known in detail) do not support widespread and predominant Fe-oxide assemblages, and Cu levels are on the low side relative to Au. The presence of massive sulfides, and pyrrhotite in particular, is not typical (Anderson J et al).

The memorandum recommended that the exploration in the Lake Mackay tenement package should be mindful of IOCG deposit models, and the possibility of encountering either disseminated or massive sulphides. A geophysical orientation survey was recommended to be conducted at Tekapo.

### 6.2 Tekapo Prospect Petrology

A total of seven thin sections from aircore drill chips were prepared in January 2008. The original petrological report by Minerex Services is included in the digital appendix. The drill hole locations (LMAO 124, LMAO125, LMAO126, LMAO133, LMAO134) from which the samples were taken, are shown on **Plate 1 & 2**. The presence of pyrrhotite noted in the petrological report suggested that the mineralisation may provide a subtle but discernable magnetic signature.

### 6.3 Geophysical Surveys

In May 2008 Tanami commissioned Geo Discovery Group Pty. Ltd to design detailed ground magnetics and gravity surveys, which were completed by contractors Euro Services Pty Ltd and Daishsat Pty Ltd (respectively). The combined magnetic and gravity survey covered one area at the Tekapo Prospect area within EL 9442 and 9449 (**Plate 1 & 2**). A total of 53 line km were covered on 30 NS lines and 1 EW line. A 2km x2km area was covered with 100m spaced lines

with a 1km x 1km area being in-filled with 50m spaced lines. The 4km<sup>2</sup> survey was centred on the known mineralisation.

At the time when writing this report no final reports of the geophysical contractors were completed. The geophysical survey data is included in the digital appendix.

After the quality control and processing of the ground magnetic and gravity survey data was done two images were produced see **Plate 1 & 2**.

The images were reviewed by a consulting geophysicist, who came to the following conclusions (Mackee, 2008).

The ground magnetic relief across the survey area is quite low, with many of the local responses limited to only a few nano Tesla. The more obvious features are the approx EW linear magnetic sources to the north and similar EW features across the southern edge of the survey. In the vicinity of the Tekapo gossan & drilling, there are some obvious NW-SE structures in the magnetic response, which appear to undergo a NS offset or jog in the vicinity of the gossan. The gossan zone also appears to have a slight magnetic low response overall, including a couple of localised magnetic lows near the north and south ends of the mapped exposure. This subtle low magnetic zone looks to extend towards the SE along the magnetic structure, with other possible offsets.

The gravity response is also fairly muted, with a pronounced regional gradient evident, increasing across the survey area from east to west. In the vicinity of the Tekapo gossan, there are some small local residual anomalies, which become more obvious in the residual Bouguer Gravity image (i.e. with the longer-wavelength regional response filtered out). In particular, there is a localised gravity anomaly of approx 0.20 mGal at 617100E/7537800N, immediately east of the Tekapo gossan and beyond the reach of current drilling. The NW-SE trends apparent in the magnetics are weakly duplicated in the gravity, but a couple of NE-SW trends are more obvious across the Tekapo prospect area.

With the exception of the above gravity anomaly and the weakly anomalous magnetic low, there are no other strong magnetic or gravity responses at depth, which are directly associated with the Tekapo gossan area.

## 7.0 EXPLORATION EXPENDITURE AND BUDGET

The annual expenditure and exploration programs and budgets will be reported separately for each tenement.

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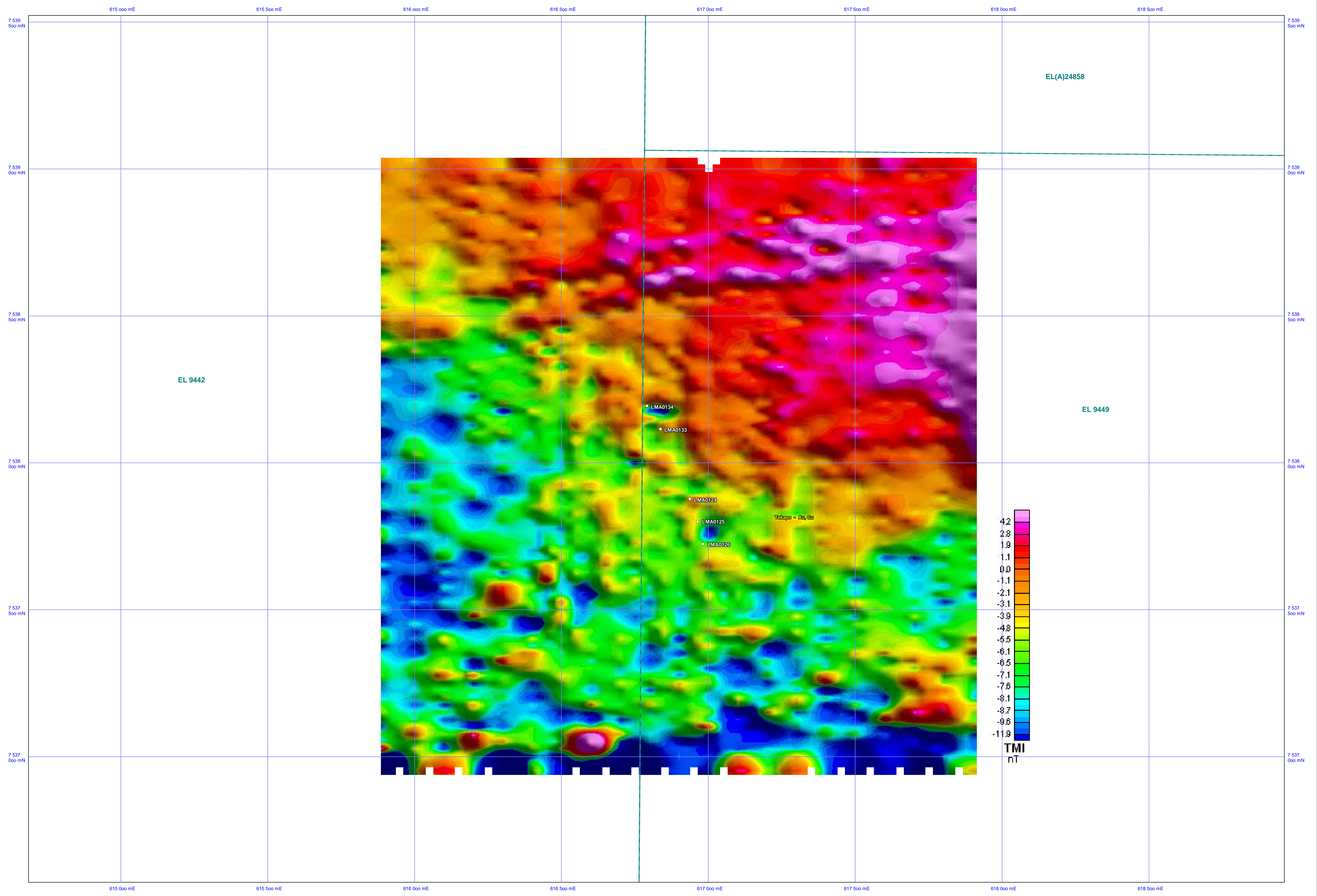
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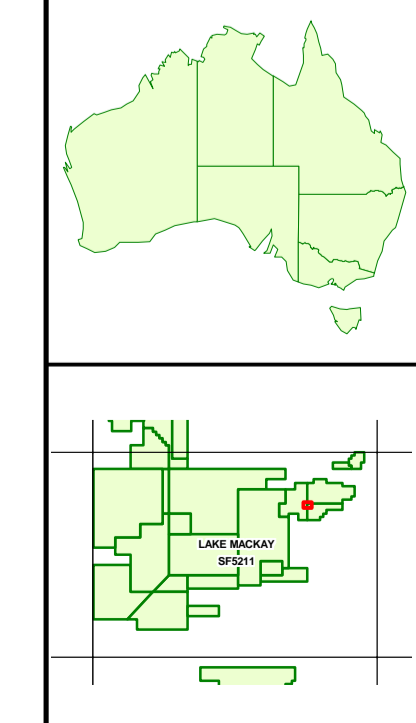
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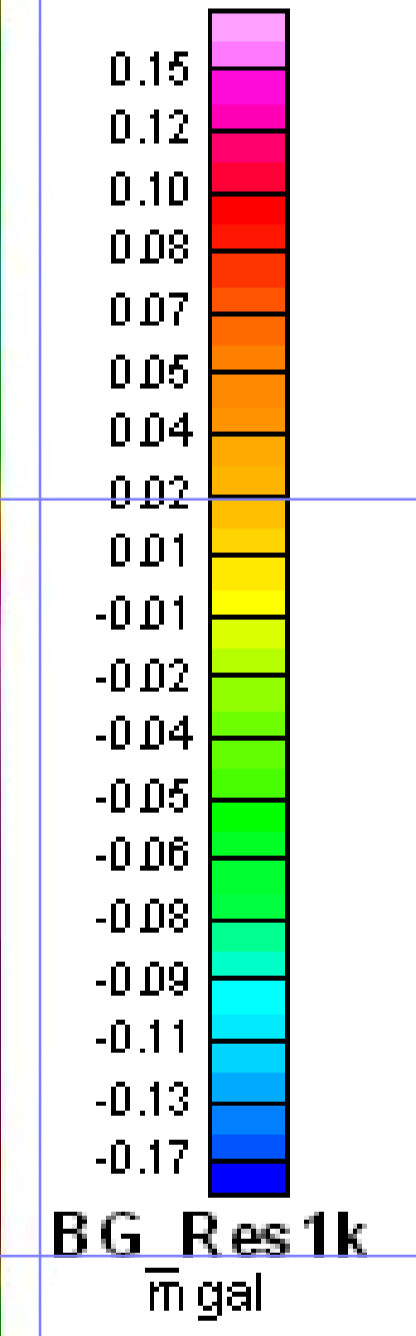
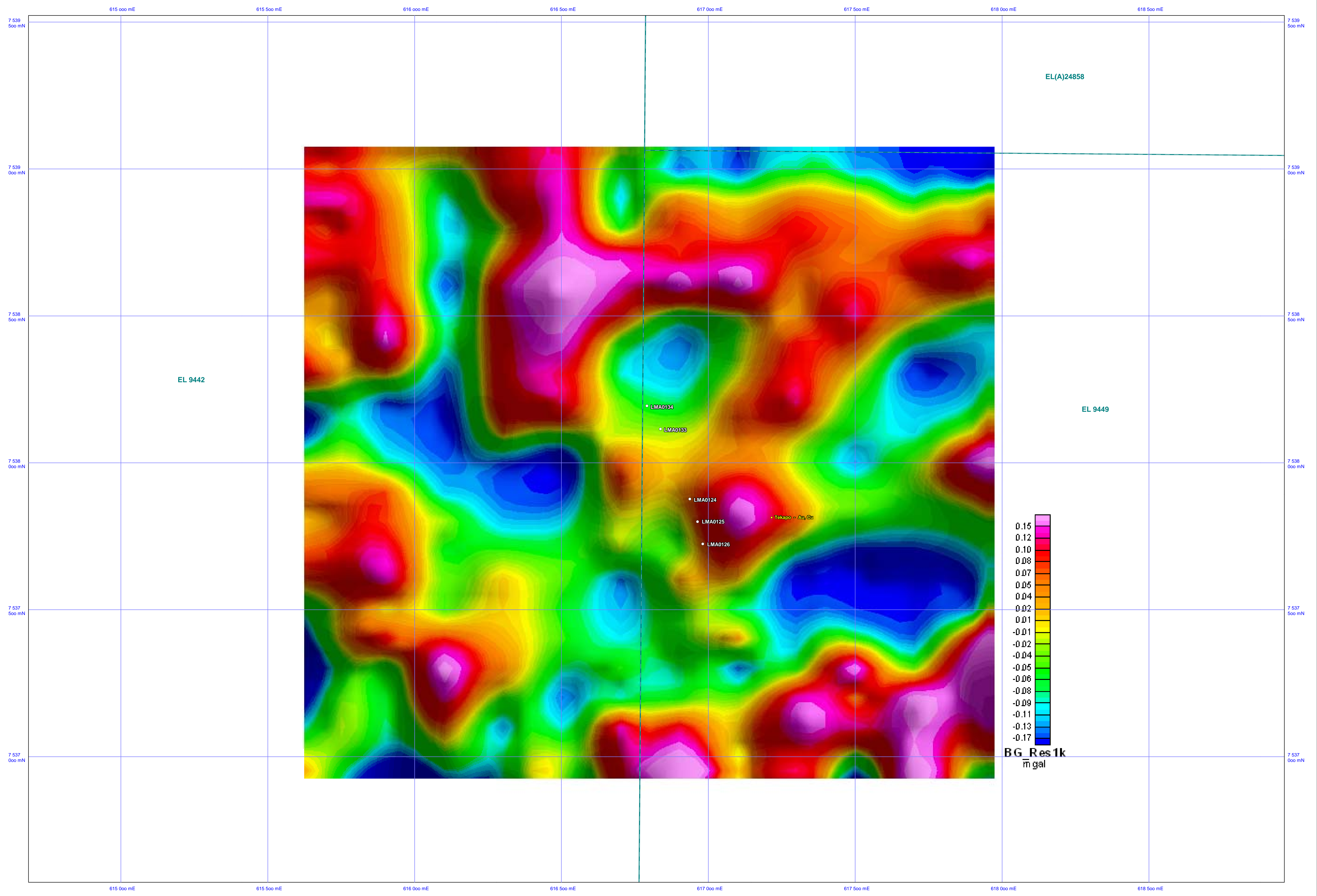
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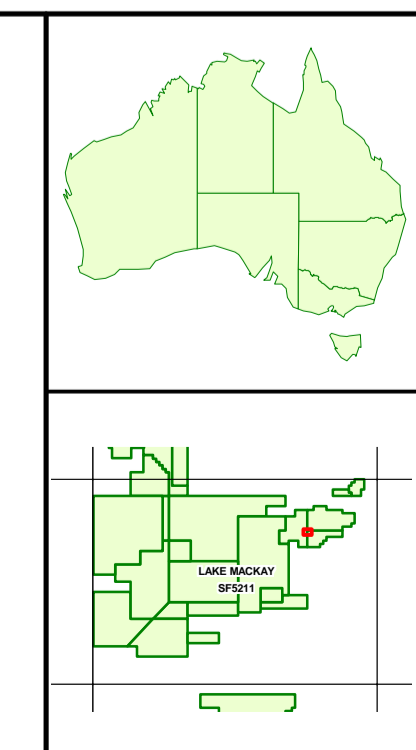
○ Drillhole with Thin Section



<b>TANAMI GOLD NL</b>		
<b>TEKAPO</b>		
<b>THIN SECTION LOCATIONS on GROUND MAGNETICS</b>		
MGA Zone 52 (GDA94) <b>1 : 5,000</b>		
ORIGINATOR: <b>J. Rohde</b>	DATE: <b>Sept 2008</b>	DRAWN: <b>M.H.Bailey</b>
PLAN No: <b>LMP_LM_4_2_002</b>		<b>PLATE 1</b>



○ Drillhole with Thin Section



<b>TANAMI GOLD NL</b>		
<b>TEKAPO</b>		
<b>THIN SECTION LOCATIONS on RESIDUAL GRAVITY</b>		
MGA Zone 52 (GDA94) <b>1 : 5,000</b>		
ORIGINATOR: J. Rohde	DATE: Sept 2008	DRAWN: M.H. Bailey
PLAN No: <b>LMP_LM_4_6_002</b>		<b>PLATE 2</b>