



**INDEPENDENCE GOLD**

**2004 Annual  
Technical Report**

(Report Number EL9443/2004)

**Musgrave Joint Venture  
EL9443 Petermann Range  
December 2003**

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## 2004 Annual Technical Report

Musgrave Joint Venture  
EL9443 Petermann Ranges  
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### *Summary*

*During the current year of tenure a wide-spaced regional geochemical survey was completed over high priority geology on EL9443.*

*A subsequent round of follow up geochemical sampling was completed in an attempt to confirm elevated Cu, Pb and Ni geochemistry in one area.*

*This follow up sampling confirmed the original weakly anomalous samples however suggested the area of anomalism was of limited aerial extent. It is unlikely that the geochemical anomaly indicates a significant occurrence of economic bedrock mineralization.*

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## **Appendices**

### **Digital Appendices**

**2004\_maglag.xls** – magnetic concentrate geochemical sample results.

**2004\_75um.xls** – minus 75 micron geochemical sample results.

### **List of Tables, Figures and Plans**

**Table 1.** EL9443 Expenditure

**Table 2.** Proposed Expenditure

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**Figure 1.** Location Diagram

**Figure 2.** Regional Geology

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**Plan 1.** Maglag Cu Geochemistry Over Image of Maglag Cu geochemistry

**Plan 2.** Maglag Cu Geochemistry Over Image of Maglag Pb geochemistry

**Plan 3.** Maglag Cu Geochemistry Over Image of Maglag Ni geochemistry

## 1 Introduction

Application for EL 9741 was made on 24<sup>th</sup> August 1987 (originally as part of EL5702) and it was granted to Allender, Hosking & LeBrun, on January 14<sup>th</sup> 2002. Goldsearch Limited has a Joint Venture agreement whereby it can earn up to 70% in EL9443. Independence Gold NL is earning a 51% interest in Goldsearch's share of EL9443 as part of a Joint Venture Heads of Agreement signed on the 25<sup>th</sup> August 2000.

Independence is manager of exploration on behalf of the Joint Venture.

Upon granting of the tenement a comprehensive report detailing the proposed year one work program was lodged and sacred site clearance was undertaken. Notification of aboriginal heritage exclusion zones and access approval for exploration was received by the Joint Venture on 16<sup>th</sup> of October 2002.

## 2 Location

EL9443 is located approximately 17km south of Kaltukatjara and 195km west northwest of Yulara immediately south of the main road between Yulara and Kaltukatjara **Figure 1**. The lease covers a total area of 75km<sup>2</sup>.

## 3 Regional Geology

Exploration Licence EL9443 covers an area in the central northern part of the Musgrave Block. The Musgrave Block is a high-grade, Mid to Late Proterozoic metamorphic terrane (**Figure 2**). Basement gneisses of igneous and metasedimentary origin were intruded by mafic and ultramafic magmas of the Giles Complex at moderate to deep crustal levels and are now exposed in the southern half of the block. The Giles Complex represents one of the largest layered mafic/ultramafic intrusive complexes in the world, and is probably associated with a major mantle thermal event beneath the crust that is now Central Australia.

Basement gneissic rocks were also intruded by several suites of granitic rocks derived from both partial melting of crustal material and in some cases fractionation of mantle melts. Several generations of mafic dyke swarms intrude the complex. A sequence of Middle Proterozoic felsic to mafic volcanics and sedimentary rocks and minor granite unconformably overlies and intrudes the metamorphic basement in the southwest and northwest of the complex. In the north (Northern Territory) they consist of the Mt Harris Basalt, Tjuinanta Formation, Puntitijata Rhyolite and the Bloods Range Beds (Tjauwata Group) and the Hull Granite Suite. In the south and west (Western Australia) the Bentley Supergroup. The upper unit of the Bentley Supergroup is contemporaneous with the lowermost units in the bounding Officer and Amadaus sedimentary basins.

The region has been affected by at least four major metamorphic events and at least seven individual deformation phases have been recognised. The area was greatly affected by at least two major Australian orogenic events, the c1200Ma "Grenvillian" Orogeny and the c550Ma Petermann Ranges Orogeny. Deep seismic surveys suggest that during the Petermann Ranges compressional event the area was subject to "Thick-skinned Tectonics" whereby deep crustal structures offset the entire section of crust and the Moho discontinuity. It is possible that these structures developed along pre-existing, deep-seated and potentially mantle-tapping structures. This compressional event exposed a section through the crust. From deep crustal rocks immediately south of the south-dipping Woodroffe Thrust Zone through intermediate depths to upper crustal volcanics (Bentley Supergroup) in the southwest. The c300Ma Alice Springs Orogeny may have also affected the region.

In the north the Musgrave block is overlain by the intracratonic Amadaus Basin. Late Proterozoic to Palaeozoic basal Amadaus sequences are tectonically intercalated with Musgrave metamorphics in the Petermann Ranges Nappe structure. This structure is

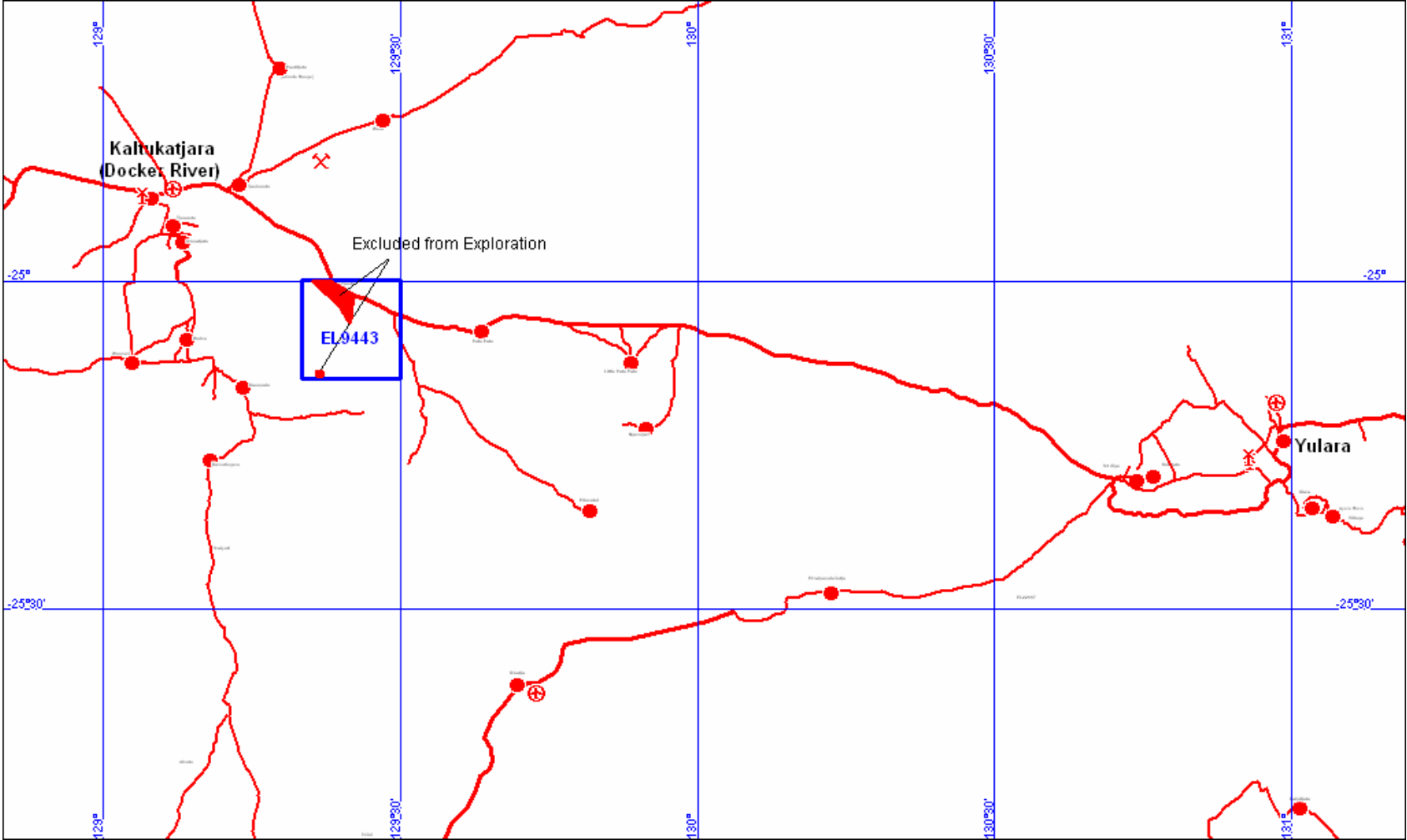
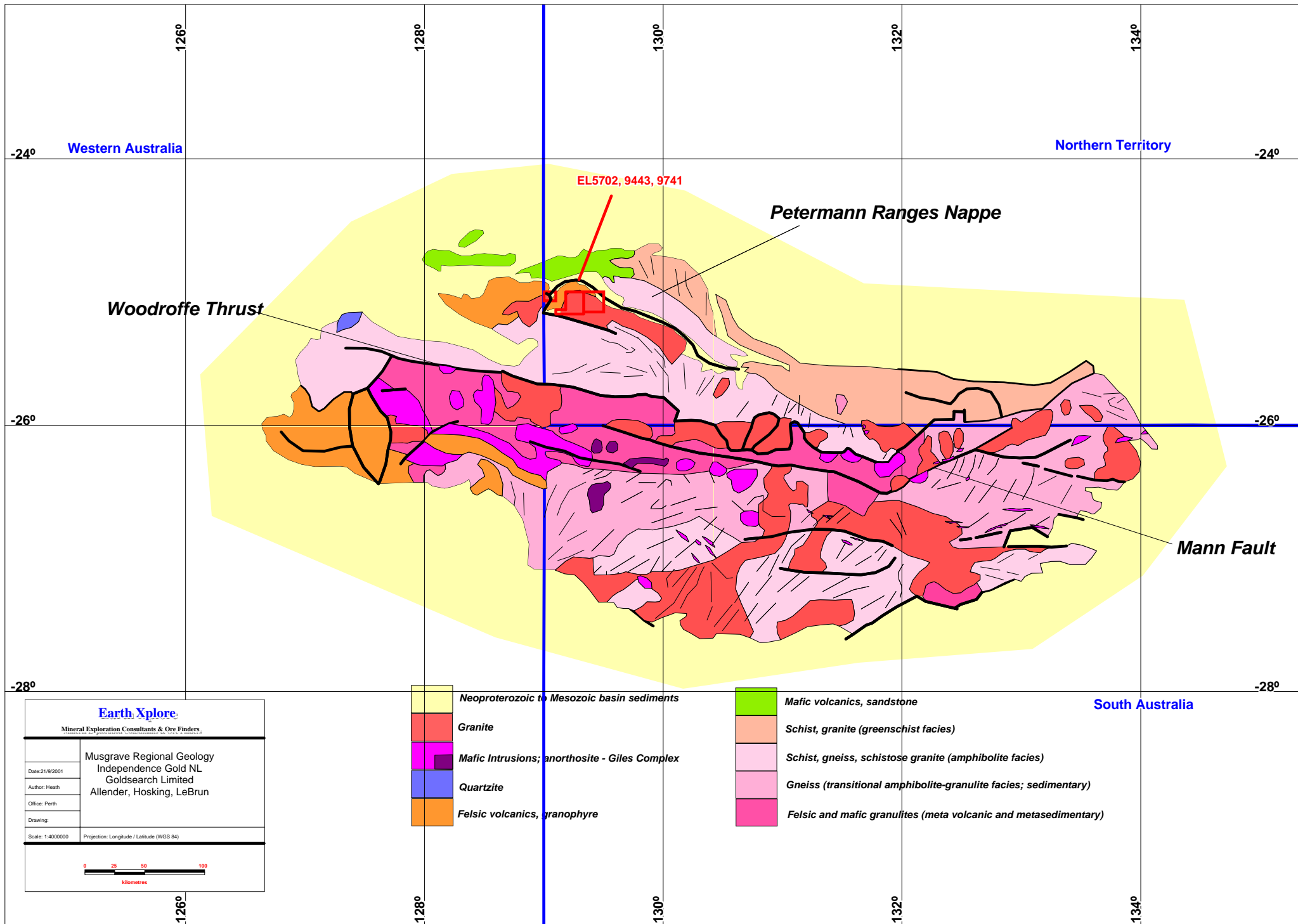


Figure 1. EL9443 Location.



associated with the Petermann Ranges Orogenic event. The basal Amadaus sequences are thought to be equivalent to the Adelaidean sequences of the Adelaide Geosyncline.

The exploration licence subject of this report covers Mid Proterozoic granitic rocks of the Pottoyu Granite Suite (c1190-1140Ma) and Late Proterozoic (c1000-820Ma) basal Amadaus sediments of the Petermann Ranges Nappe structure in the Wankari Detachment area. In the Wankari Detachment the Nappe consists of a moderate to steep south-dipping, east-striking zone of younger sediments intercalated with older basement granites. The Petermann Ranges Nappe was developed during the Petermann Ranges Orogeny (c560-520Ma).

### 3.1 Pottoyu Granite

The Pottoyu Granite Suite consists of coarse-grained, foliated, porphyritic, biotite granites. Porphyroblasts consist of K feldspar and are often rounded showing a rapakivi texture. This suite of rocks is typically well exposed in the lease area.

### 3.2 Late Proterozoic sediments in the Piltardi Detachment area

In the Piltardi Detachment area basal Amadaus sediments occur as an 8 to 12 km wide zone of moderately steep north dipping quartz sandstone, schists, phyllites and dolomites, intercalated with possible minor mafic volcanic rocks. Intense mylonitisation occurs within the zone. Basal Amadaus units consist of the Kulail Sandstone, Dean Quartzite and the Pinyinna Beds.

The Kulail Sandstone is a red to purple ferruginous, quartz sandstone with abundant trough crossbeds and local heavy mineral horizons. The Dean quartzite is a clean, white crystalline quartz sandstone or quartz muscovite schist. The Pinyinna Beds consist of a sequence of grey to red-brown phyllites, and dolomites with rare tuffaceous beds.

## 4 Exploration Targets

The exploration program is focussed on both precious and base metals with the interpreted potential of the region based on two distinct ore deposit models.

### 4.1 Shear and Lode-hosted Precious Metal Deposits

Extensive quartz vein systems developed in the Pottoyu Granite country rock were considered to have limited potential for this style of deposit.

### 4.2 Sediment-hosted Stratiform Basemetals

The Neoproterozoic Pinyinna Beds which overly a basalt, red bed sequence which is interpreted as an early rift phase sequence are considered prospective for this style of mineralization.

## 5 Exploration Completed

During the period 14<sup>th</sup> January 2003 to 13<sup>th</sup> of January 2004 work completed by the Joint Venture partners included a program of regional geochemistry and a program of follow-up geochemistry.

### 5.1 Regional Geochemistry

Regional geochemical sampling was completed on a 4km x 500m spaced sample grid. A total of 90 samples were collected from 45 separate sample locations covering an area of approximately 73km<sup>2</sup>.

The program was completed using four wheel motor bikes. Sampling was restricted to those areas underlain by geology which based on target ore deposit styles, and previous work is thought to be most prospective. A total of 45 fine fraction (minus 75 micron) soil samples and 45 magnetic fraction soil samples were collected. Sampling highlighted one areas for follow up sampling based on elevated Cu (77ppm), Pb (83ppm) and Ni (117ppm).



## 5.2 Follow-up Geochemistry

A total of 11 magnetic fraction soil samples were collected to follow up anomalous values returned from regional geochemistry. Generally the samples confirmed the original values but failed to suggest potential to significantly extend the anomaly to the east. The dimensions of the anomaly to the west is restricted by a exploration exclusion zone. Overall the strength of the anomaly is thought to suggest little potential for a significant bedrock mineral deposit and the anomaly is thought to be associated with elevated metal values due to surface enrichment of the Pinyinna Beds.

## 6 Expenditure

Total expenditure excluding costs associated with native title and annual rents for EL9443 for the period was **\$16,748** as detailed in **Table 1**.

**Table 1. EL9443 Expenditure**

Personnel	\$ 6,773
Legal	\$ 192
Fees/Permit Costs	\$ 50
Telecommunications	\$ 155
Assays	\$ 2,474
Drafting Supplies	\$ 57
Travel Costs / Charter	\$ 717
Vehicles	\$ 2,314
Hire Equipment	\$ 459
Camp Provisions	\$ 379
Field Supplies	\$ 157
Freight	\$ 230
Administration 20%	\$ 2,791
<b>total</b>	<b>\$ 16,748</b>

The annual expenditure commitment for EL9443 is \$50,000. The shortfall in expenditure was due to the fact that the exploration program over EL9443 is run concurrently with programs over neighbouring tenements held by the Joint Venture. Concurrent programs provide obvious planning and logistical benefits and also simplify the permitting and approval process for working on aboriginal freehold land. However concurrent exploration programs can result in some delays with respect the advance of exploration activities on individual tenements as work is completed on other tenements and results are received and interpreted before the next round of work can commence. Work on EL9443 was run concurrently with work on EL's 5702 and 9407. The program on EL9407 was significantly larger than the program completed on EL9443 it was also undertaken in an area considerably more difficult with respect to access and logistics. The program on EL9443 was delayed to a certain degree by the work activities completed on neighbouring tenements and as a result additional rounds of exploration were not completed during the year and commitment was not met.

## 7 Forward Work Program

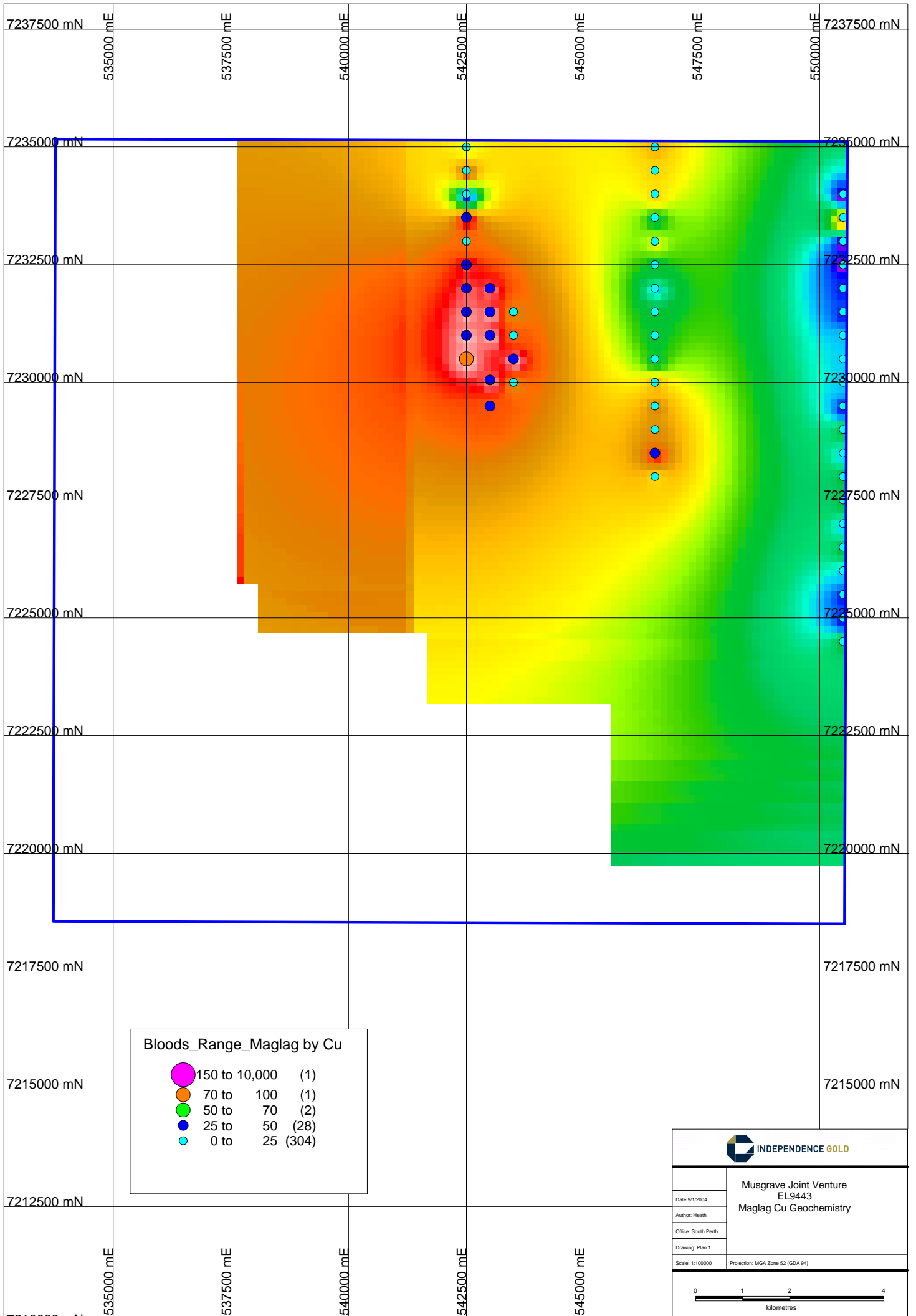
The forward program involves an assessment of geochemical sampling completed to date and a review of the merits of extending the regional geochemistry over the remainder of the lease area. Budgeted expenditure for the proposed program is **\$51,360** as detailed in **Table 2**.

**Table 2. Proposed Expenditure.**

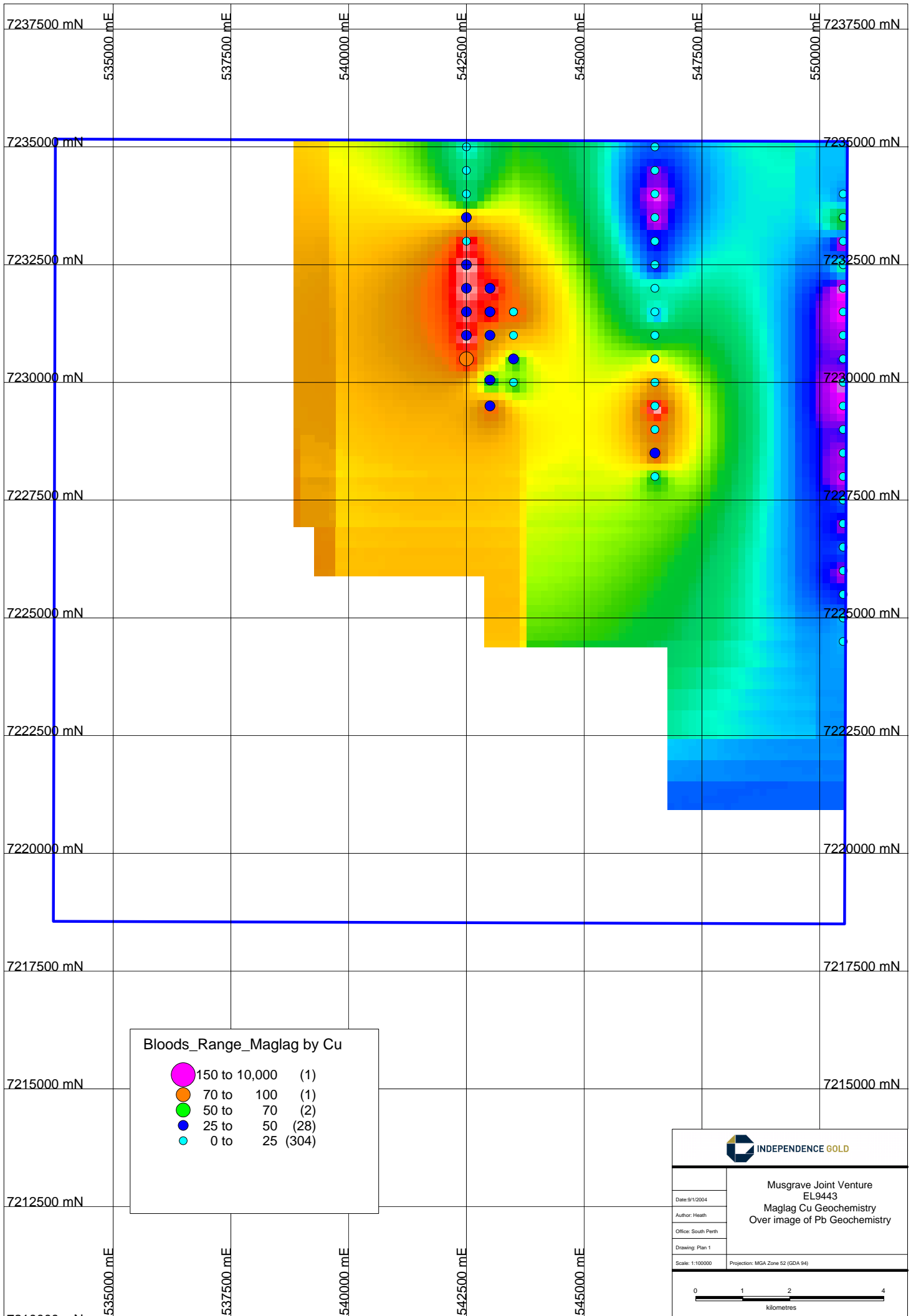
Personnel	\$ 24,500
Legal	\$ 200
Fees/Permit Costs	\$ 50
Drafting	\$ 2,500
Analytical	\$ 6,850
Camp Provisions	\$ 1,800
Drafting Supplies	\$ 100
Travel Costs / Charter	\$ 2,750
Vehicles	\$ 3,800
Freight	\$ 250
Administration 20%	\$ 8,560
<b>total</b>	<b>\$ 51,360</b>

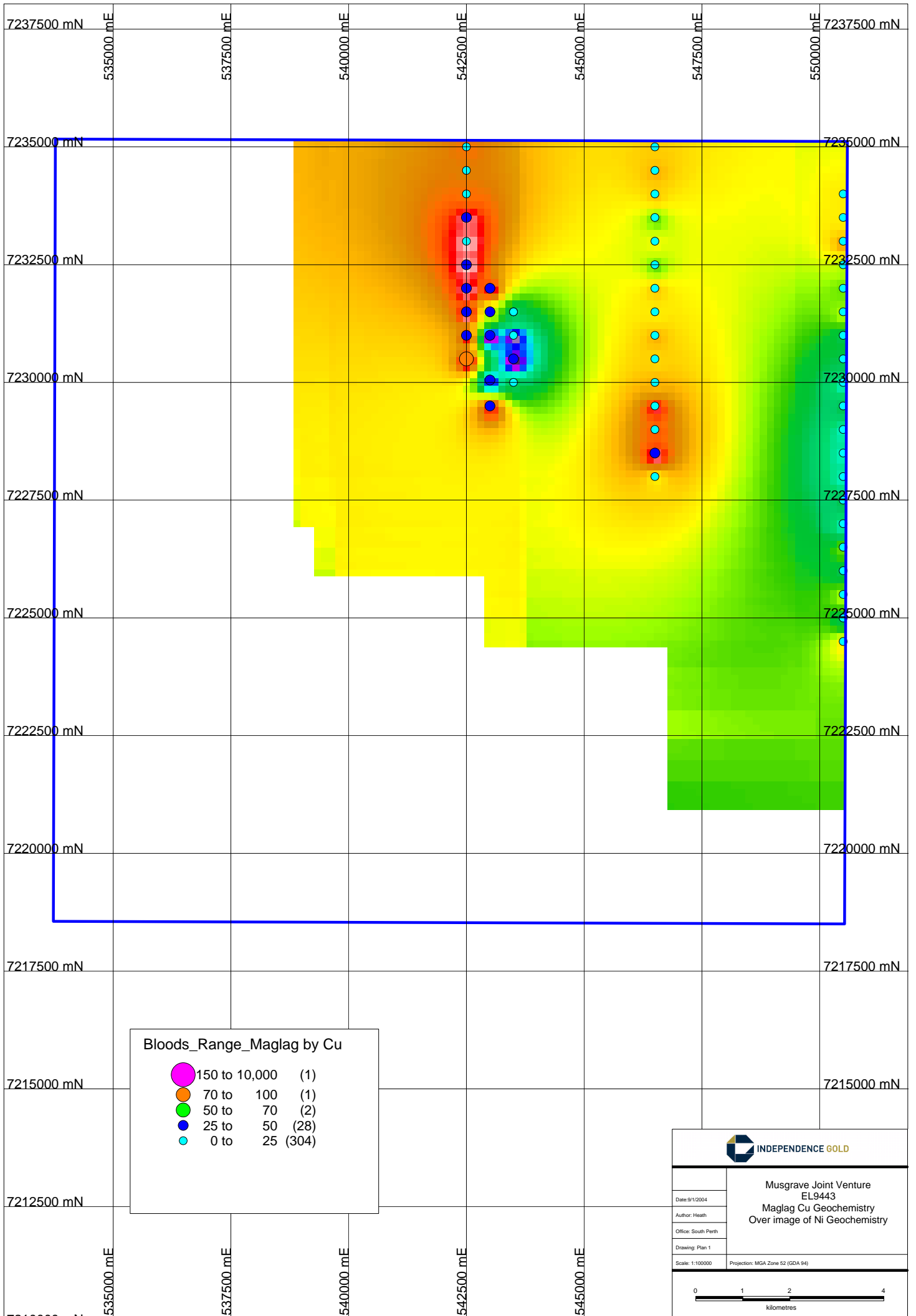
## **Appendix One**

### **Geochemical Plans**



Musgrave Joint Venture EL9443 Maglag Cu Geochemistry	
Date: 9/1/2004	Author: Heath
Office: South Perth	Drawing: Plan 1
Scale: 1:100000	Projection: MGA Zone 52 (GDA 94)





**Bloods\_Range\_Maglag by Cu**

150 to 10,000	(1)
70 to 100	(1)
50 to 70	(2)
25 to 50	(28)
0 to 25	(304)

**INDEPENDENCE GOLD**

Musgrave Joint Venture  
EL9443  
Maglag Cu Geochemistry  
Over image of Ni Geochemistry

Date: 9/1/2004  
Author: Heath  
Office: South Perth  
Drawing: Plan 1  
Scale: 1:100000  
Projection: MGA Zone 52 (GDA 94)

0 1 2 4  
kilometres