

FINAL ANNUAL TECHNICAL REPORT FOR  
EXPLORATION LICENCE 26243  
MT EBENEZER

Final Annual Report  
Reporting period 25 March 2008 to 14 February 2013

HELD BY:  
QUASAR RESOURCES PTY LTD  
100%

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## **Executive Summary**

During the reporting period 25 March 2008 until 14 February 2013 Quasar Resources Pty Ltd (QSR) conducted a gravity survey consisting of 1,748 gravity stations, using helicopter support, to assist with targeting IOCG anomalies and palaeochannels as well as to assist with the understanding of basement geology. Portion of this gravity survey work was the result of the NTGS's "Bringing Forward Discovery" initiative for collaboration in geophysics surveys.

A calcrete sampling program within EL 26243 was also conducted and a collection of 968 surface samples for multi-element geochemical analysis were collected.

***Proponent Details***

The operator for the exploration licence is Quasar Resources Pty Ltd.

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**Contact Person**

Joy Barnes – Executive Assistant/Tenement Manager

## **1. Location and Access**

EL 26243 is situated on the Henbury SG5301 and Kulgera SG5305, 1:250,000 map sheets of Northern Territory. (Figure 1) The tenement was granted on 24 March 2008 for a period of 6 years and considered of 500 blocks and covered approximately 1,539 km<sup>2</sup> and is located west of Erlunda crossing the Lasseter Highway. (Figure 1)

Access from Alice Springs is via the sealed Lasseter Highway, which bisects the southern portion of the tenement area. Within the tenement access is by formed gravel roads and pastoral station tracks.

## **2. Tenement Details**

QSR holds 100% interest in EL 26243, which was granted on the 25<sup>th</sup> of March 2008 and surrendered 14 February 2013.

The land tenure of the licence is Perpetual Pastoral Lease. (Figure 2)

NT Portion	Type No	Owner's Name	Owner's Address
01991	PPL 1140	Fogarty Holdings	Palmer Valley Station, via Alice Springs NT 0872
00680	PPL 1056	Fogarty Holdings	Palmer Valley Station, via Alice Springs NT 0872
03336	Estate in fee simple	Impanpa Development Association Incorporated (Mt Ebenezer Roadhouse)	C/- Phil Ralfe – CLC PO Box 3321 Alice Springs NT 0872
01230	Estate in fee simple	Impanpa Community Incorporated (Community Living Area)	C/- Phil Ralfe – CLC PO Box 3321 Alice Springs NT 0872
03350	PPL 1088	John Garnaut Stanes	C/- Lyndavale Station, PMB, Alice Springs NT 0872
03351	PPL 1031	Ailbern Pty Ltd	Erlunda Station via Alice Springs NT 0870

Table 1 Landholders over EL 26243 Mt. Ebenezer.

## **3. Geology**

Targeting the sandstone-hosted potential of the Palaeozoic clastic succession, including Devonian sandstones of the Amadeus Basin. This licence is located on an intra-basinal structural culmination in the southern part of the basin, and the exploration play is based largely on petroleum-style concepts.

There is potential for brine-basement interactions, and early Cambrian arkoses derived from the Musgrave Block during the Petermann Orogeny (Mt Currie Conglomerate, Multijulu Arkose, Arumbera Sandstone) are possible higher level uranium source rocks.

Seismic data suggests the potential for the focusing of deep basinal, saline and oxidative brines derived from a thick evaporate section of the Neoproterozoic Bitter Springs Formation into high level mixing zones and trapping with hydrocarbons. Such saline fluids are known to be effective in leaching and transporting uranium (Heinrich *et al.*, 1995)

#### **4. Exploration Activities**

##### **2008 – 2009**

A precision GPS-Gravity survey was conducted by Daishsat Geodetic Surveyors between 12 November and 4 December 2008. A total of 1,544 stations were collected over the tenement at a nominal station spacing of 1km. In addition to the 1km spaced survey, a total of 204 additional infill stations were collected along two north-south traverses. The entire survey consists of 1,748 gravity stations. Figure 3 shows the Bouguer gravity image from the survey.

Stations were accessed using a Robinson R-44 Helicopter and Yamaha Rhino ATV's. Gravity measurements were made using Scintrex CG-3, Scintrex CG5 and LaCoste & Romberg Type-G gravity meters. Position and level data was obtained using Leica 1230GG geodetic grade GPS receivers collecting GPS and GLONASS positional information operating in post-kinematic mode. Data was processed by Daishsat using standard reductions to the ISOGAL84 gravity network using Geosoft GRAVRED software.

This survey was conducted as part of a larger survey covering three explorations licenses operated by Quasar Resources. A full logistics report which details the acquisition methodology and data processing by Daishsat is included in Appendix 1, and 2.

Details of the locations of the two traverses are as follows (GDA94 - MGA Zone 53)

<b>Line</b>	<b>Start Northing</b>	<b>End Northing</b>
257,000mE	7,200,000mN	7,247,000mN
276,000mE	7,208,000mN	7,247,000mN

Figure 4 shows the profile data on the Bouguer gravity image. Line 267,000E was located to allow comparison with seismic line 82-07. The interpretation of this line is shown in Figure 5 and suggests a major thrust structure with detachment near the base of the Gillen Member salt (Young Geoconsultants 2004).

The 1km x 1km survey was the result of the NTGS's "*Bringing Forward Discovery*" initiative for collaboration in geophysics surveys. The additional traverses were not part of the geophysics collaboration.

##### **2009 – 2010**

##### **Sampling**

###### ***Method***

Surface samples were collected on an 800 x 800 m grid over approximately half of EL 26243 Mt. Ebenezer (Figure 5). Sample locations were moved off the square of the grid where they were outside any traditionally significant areas (such as salt lakes) and sand dunes. Areas of extensive sand dunes outside this programme were not sampled.

Preferentially, calcrete samples were collected, followed by ferricrete. If neither were intersected to a depth of 1 m, a soil sample was taken. The presence of calcrete was tested using 10% HCl. Where nodular or sheet calcrete was intercepted the samples

were sieved to collect the nodules, otherwise whole soil samples were taken. Samples were approximately 1.0 kg.

A record of the type of calcrete; cover lithology, type and characteristic; acid reaction; type of outcrop present (if any) and terrain type was taken at each sample location (Appendix 3).

### **Analysis**

A total of 990 samples were collected and submitted for geochemical analysis at ALS, Adelaide. Three different preparation/analytical techniques, each with a specific suite of elements, were used (Table 2). ME-MS62 is a whole rock near-total four acid digest with ICP-AES finish. ME-ICP61 is a four acid digest with ICP-MS finish. ST44 is a gold analysis by aqua regia extraction with ICP-MS finish.

Method ME-MS62			Method ME-ICP61			Method ST44		
Element	Unit	LLD	Element	Unit	LLD	Element	Unit	LLD
U	ppm	0.1	Zn	ppm	2	Au	ppm	0.001
Th	ppm	0.2	Mn	ppm	5			
Cu	ppm	0.2	Co	ppm	1			
Pb	ppm	0.5	Ce	ppm	50			
Ag	ppm	0.02	Al	%	0.01			
As	ppm	0.2	K	%	0.01			
Bi	ppm	0.01	Ca	%	0.01			
Ga	ppm	0.05	Fe	%	0.01			
La	ppm	0.5	Mg	%	0.01			

Table 2 Analytical method and element suite. LLD is the lower level of detection.

### **Results**

Due to the three different sample media collected, analysis of each medium was undertaken separately (Figures 6-11).

### **Uranium**

The highest uranium result for EL 26243 Mt. Ebenezer was 15.9 ppm in a soil sample (ME1665). The highest results for calcrete and ferricrete samples were 8.7 ppm (ME1759) and 9.3 ppm (ME1748) respectively.

A zone of anomalous uranium is seen in the south east of the programme area (Figure 6). This roughly coincides with exposures of Siluro-Devonian Mereenie Sandstone and Devonian Horseshoe Bend Shale (Figure 12). Smaller anomalies occur north of Basedow Range and are near out- or sub-cropping Mereenie Sandstone and Horseshoe Bend Shale (Figure 12).

### **Gold**

The highest gold result for EL 26243 Mt. Ebenezer was 6.4 ppb in a calcrete sample (ME673). The highest result for ferricrete and soil samples was 3.8 ppb (ME1100 and ME977, respectively).

All the >5 ppb results for calcrete occur near out- and sub-cropping Mereenie Sandstone (Figures 7, 12). A broad anomalous area for ferricrete and soil results exists to the north of the Basedow Range (Figure 5).

## **Silver**

The highest silver result for EL 26243 Mt. Ebenezer was 1.84 ppm in a soil sample (ME1342). The highest results for calcrete and ferricrete samples were 1.33 ppm (ME978) and 1.49 ppm (ME1016) respectively.

Three small anomalous zones occur for silver, one to the north of Basedow Range, one to the east and one to the south east (Figure 8).

## **Base Metals**

The highest lead result for EL 26243 Mt. Ebenezer was 153.4 ppm in a soil sample (ME1270). The highest results for calcrete and ferricrete samples were 73.4 ppm (ME1923) and 98.4 ppm (ME1799) respectively.

The highest zinc result for EL 26243 Mt. Ebenezer was 593 ppm in a soil sample (ME1665). The highest results for calcrete and ferricrete samples were 95 ppm (ME1833) and 342 ppm (ME1021) respectively.

The highest copper result for EL 26243 Mt. Ebenezer was 123.0 ppm in a ferricrete sample (ME1422). The highest results for calcrete and soil samples were 36.7 ppm (ME1830) and 103.5 ppb (ME1665) respectively.

A zone of elevated lead, zinc and copper is seen in the south-eastern part of the programme area (Figures 9-11). These zones approximately correspond with areas of outcropping Siluro-Devonian Mereenie Sandstone and Devonian Horseshoe Bend Shale (Figure 12). Several smaller anomalies, including the highest lead result, occur north of Basedow Range.

## **2010 – 2011**

No exploration activities completed during this reporting period. Relinquishment of 50% of the area was completed on renewal of this exploration licence.

## **2011 - 2012**

No exploration activities completed during this reporting period. Relinquishment of 50% of the area was completed on renewal of this exploration licence.

## **2012 – 2013**

No exploration activities completed during this reporting period.

## **5. References**

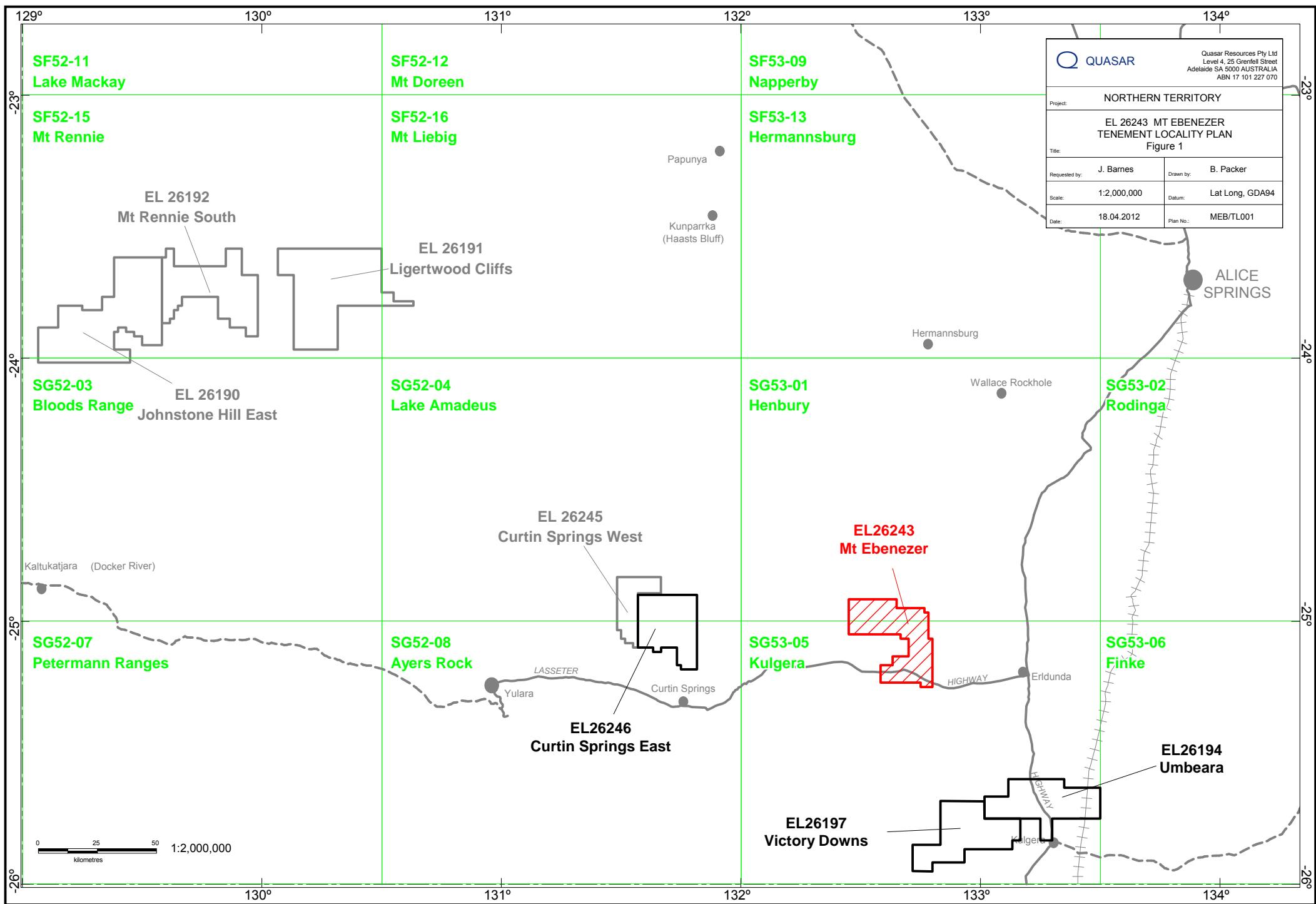
Edgoose, C.J., Wakelin-King, G.A., Freeman, M., Wyche, S. & Stidolph, P.A., 1991, *Kulgera 1:250,000 geology map, SG5305, NTGS*

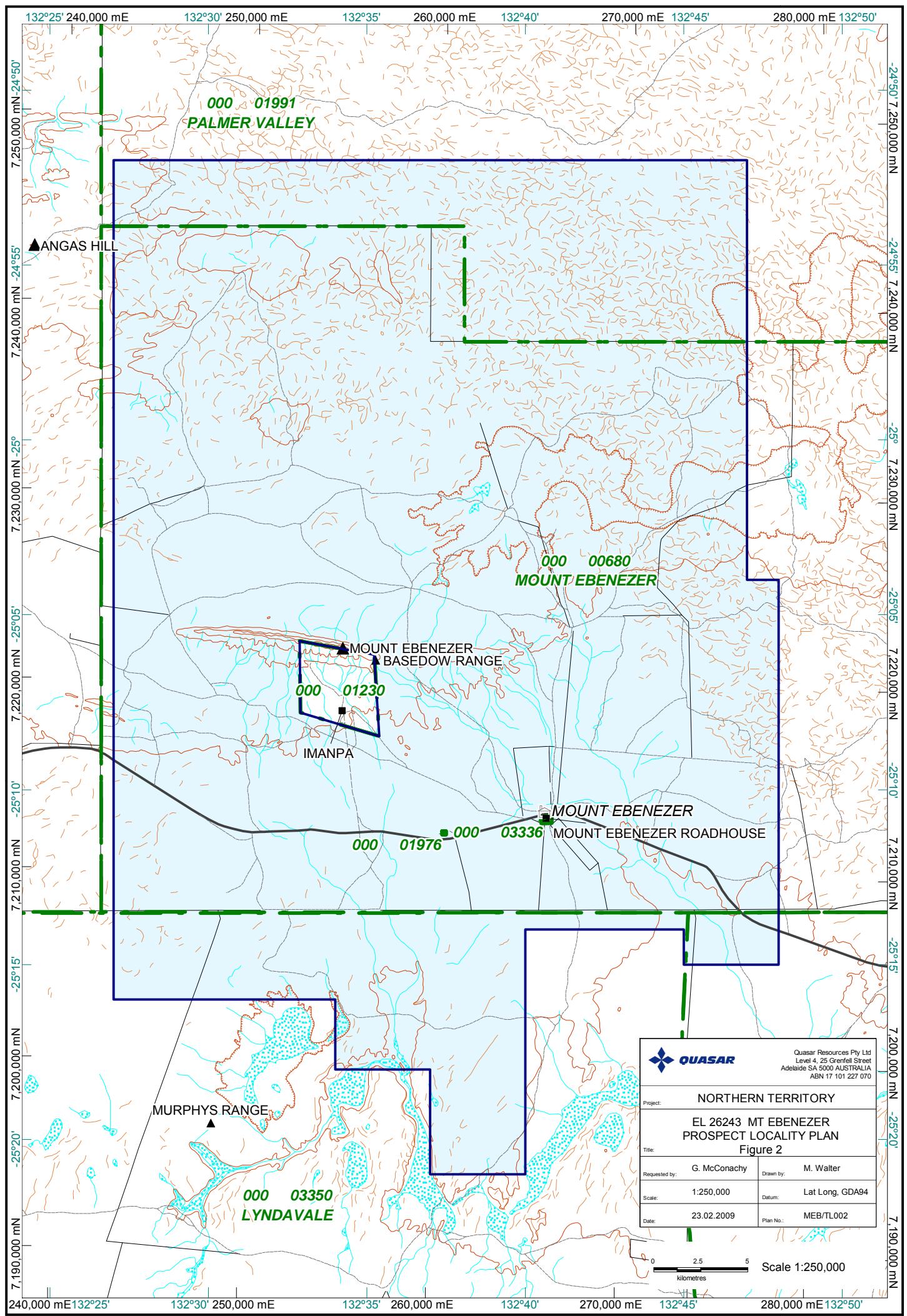
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250,000 mE

275,000 mE



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EL 26243 MT EBENEZER, NT

GRAVITY STATION LOCALITY PLAN  
OVER BOUGER GRAVITY IMAGE

Figure 3

Project:

J. Caon

M. Walter

Requested by:

Drawn by:

Scale:

1:250,000

Datum:

MGA 94, Zone 53

Date:

24.02.2009

Plan No.:

MEB/GPX002

7,250,000 mN

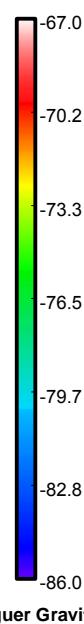
7,250,000 mN

7,225,000 mN

7,225,000 mN

7,200,000 mN

7,200,000 mN



Bouguer Gravity  
( $2.67 \text{ g/cm}^3$ )  
mGal

250,000 mE

275,000 mE

0 2.5 5  
kilometres Scale 1:250,000

250,000 mE

275,000 mE



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EL 26243 MT EBENEZER, NT

PROFILE DATA LAID OVER THE  
BOUGUER GRAVITY IMAGE  
Figure 4

Title:

Requested by:

Scale:

Date:

J. Caon

M. Walter

1:250,000

24.02.2009

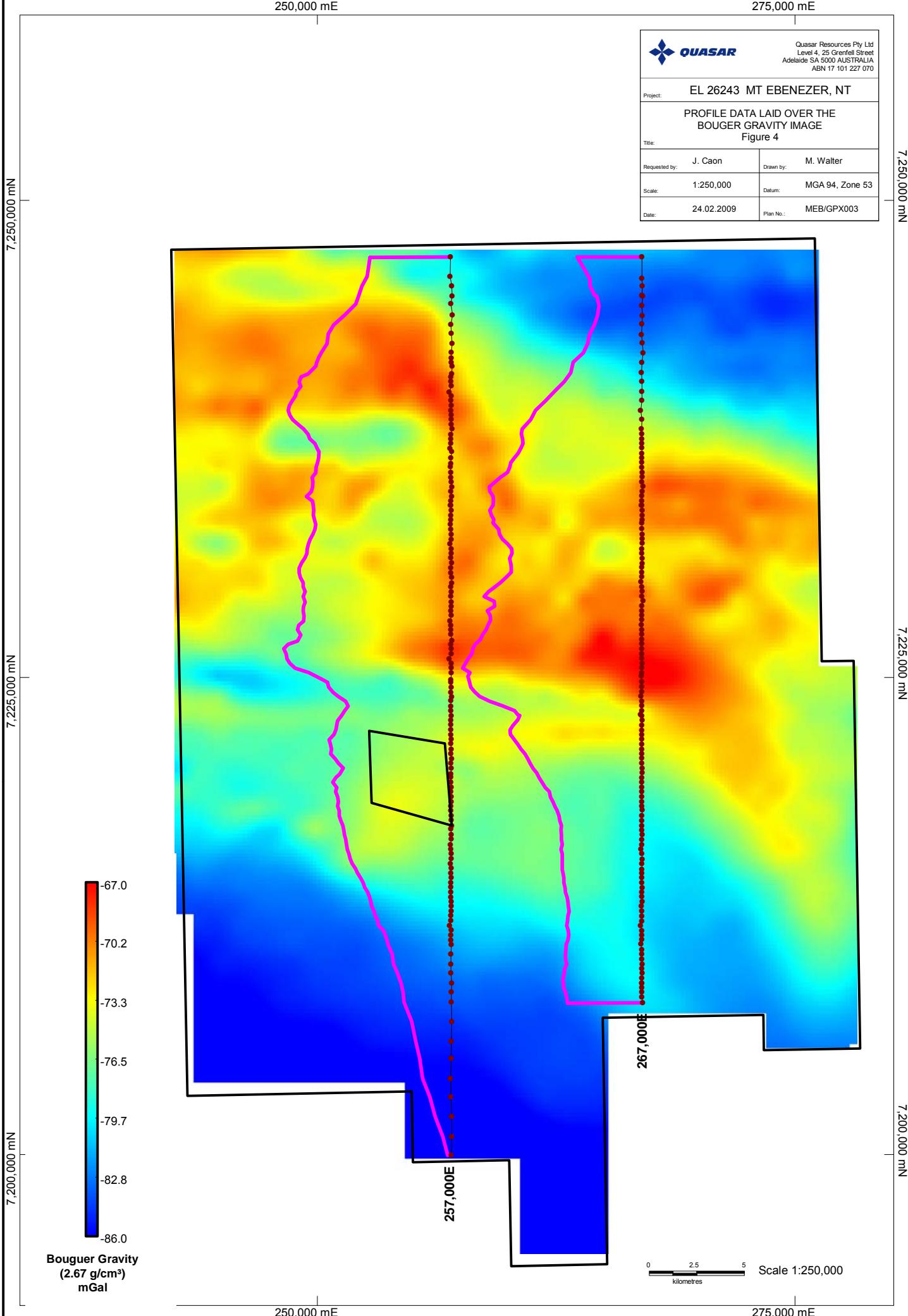
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
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MGA 94, Zone 53

Plan No.:

MEB/GPX03







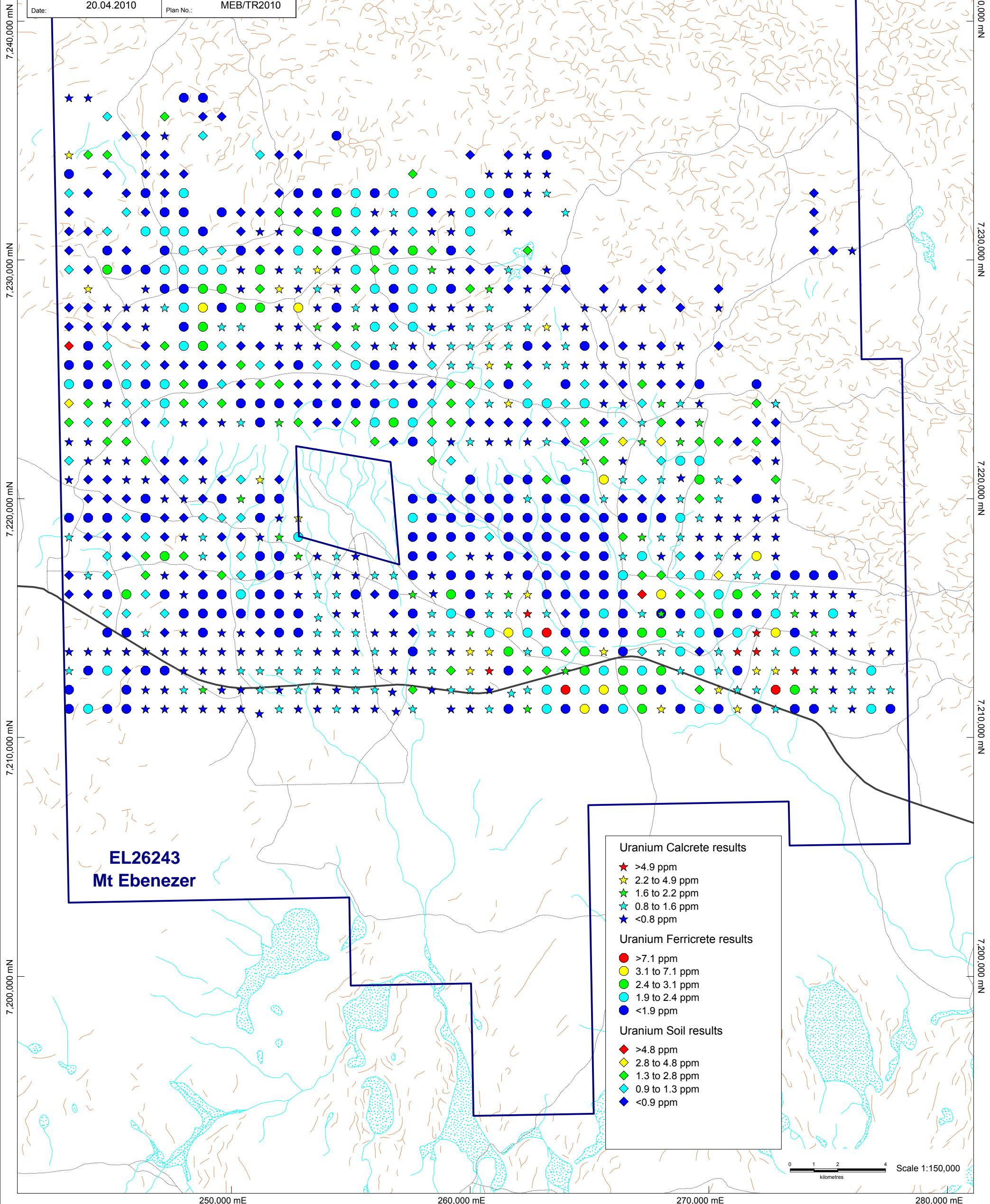
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KULGERA PROJECT, NT

EL 26243 - MT EBENEZER  
URANIUM RESULTS

Figure 6

Requested by:	D. McAvaney	Drawn by:	M. Walter
Scale:	1:150,000 (A3)	Datum:	MGA z53 (GDA 94)
Date:	20.04.2010	Plan No.:	MEB/TR2010

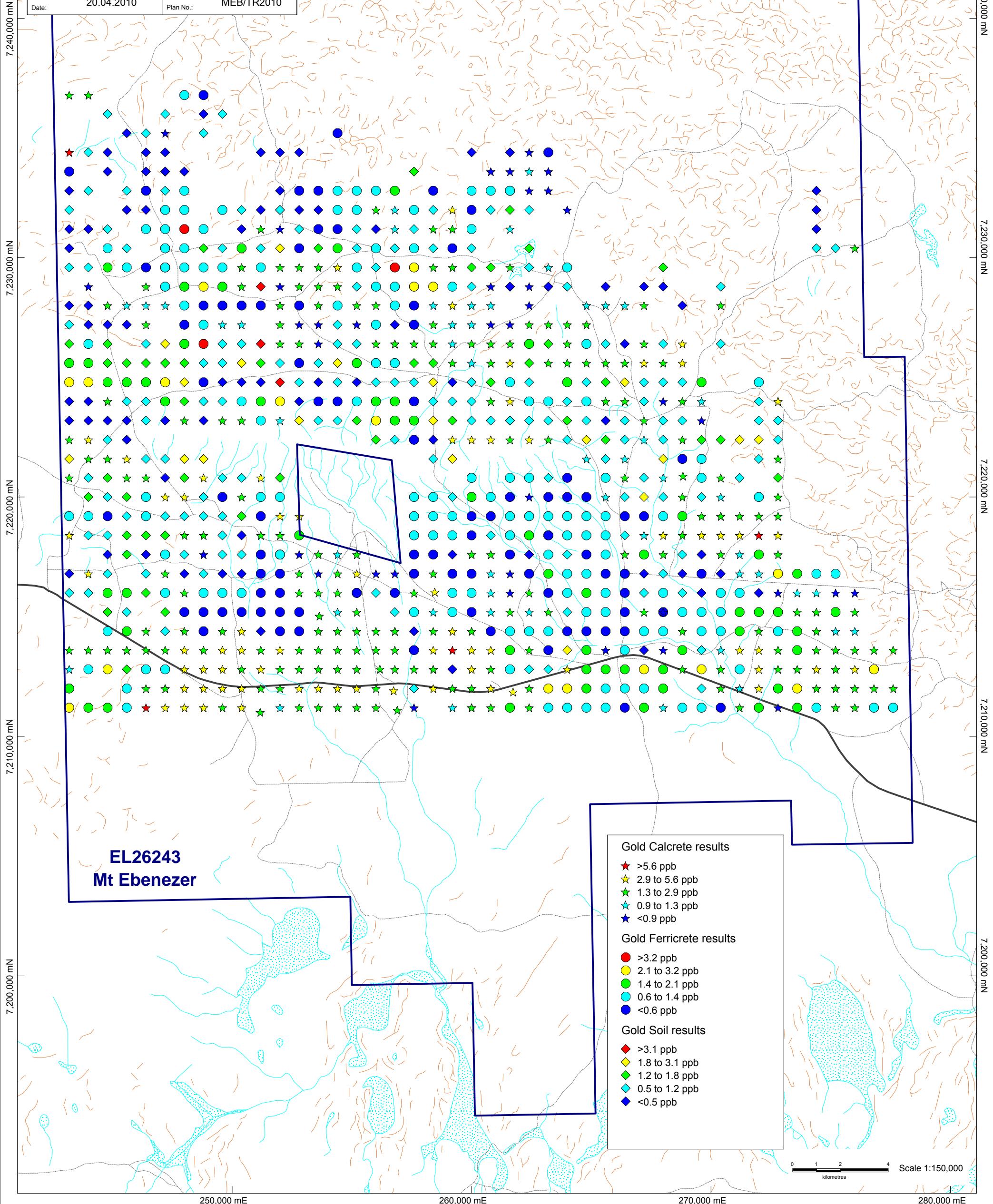




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Project: KULGERA PROJECT, NT  
EL 26243 - MT EBENEZER  
GOLD RESULTS  
Figure 7

Requested by: D. McAvaney Drawn by: M. Walter  
Scale: 1:150,000 (A3) Datum: MGA z53 (GDA 94)  
Date: 20.04.2010 Plan No.: MEB/TR2010

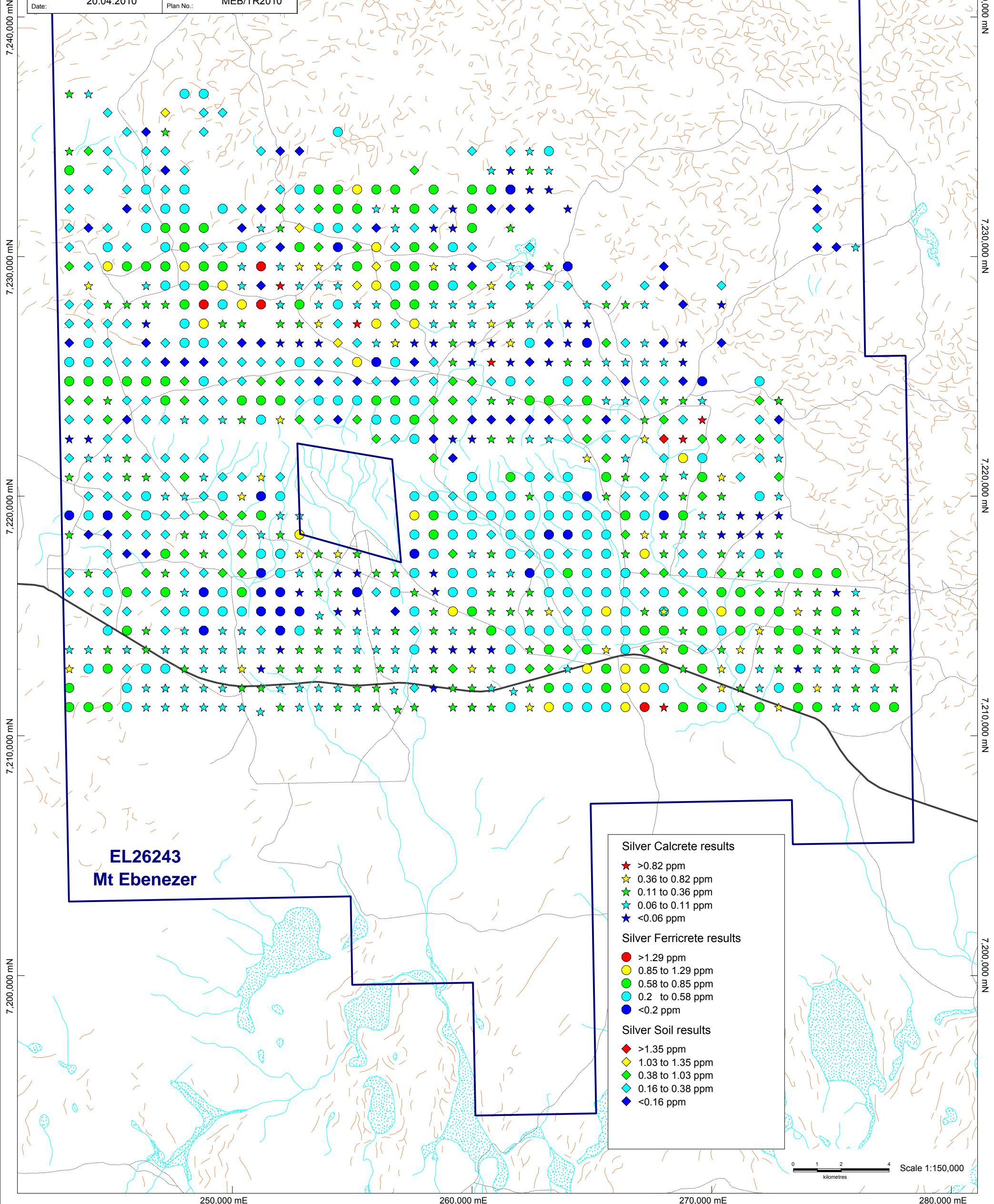




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KULGERA PROJECT, NT  
EL 26243 - MT EBENEZER  
SILVER RESULTS  
Figure 8

Requested by: D. McAvaney Drawn by: M. Walter  
Scale: 1:150,000 (A3) Datum: MGA z53 (GDA 94)  
Date: 20.04.2010 Plan No.: MEB/TR2010





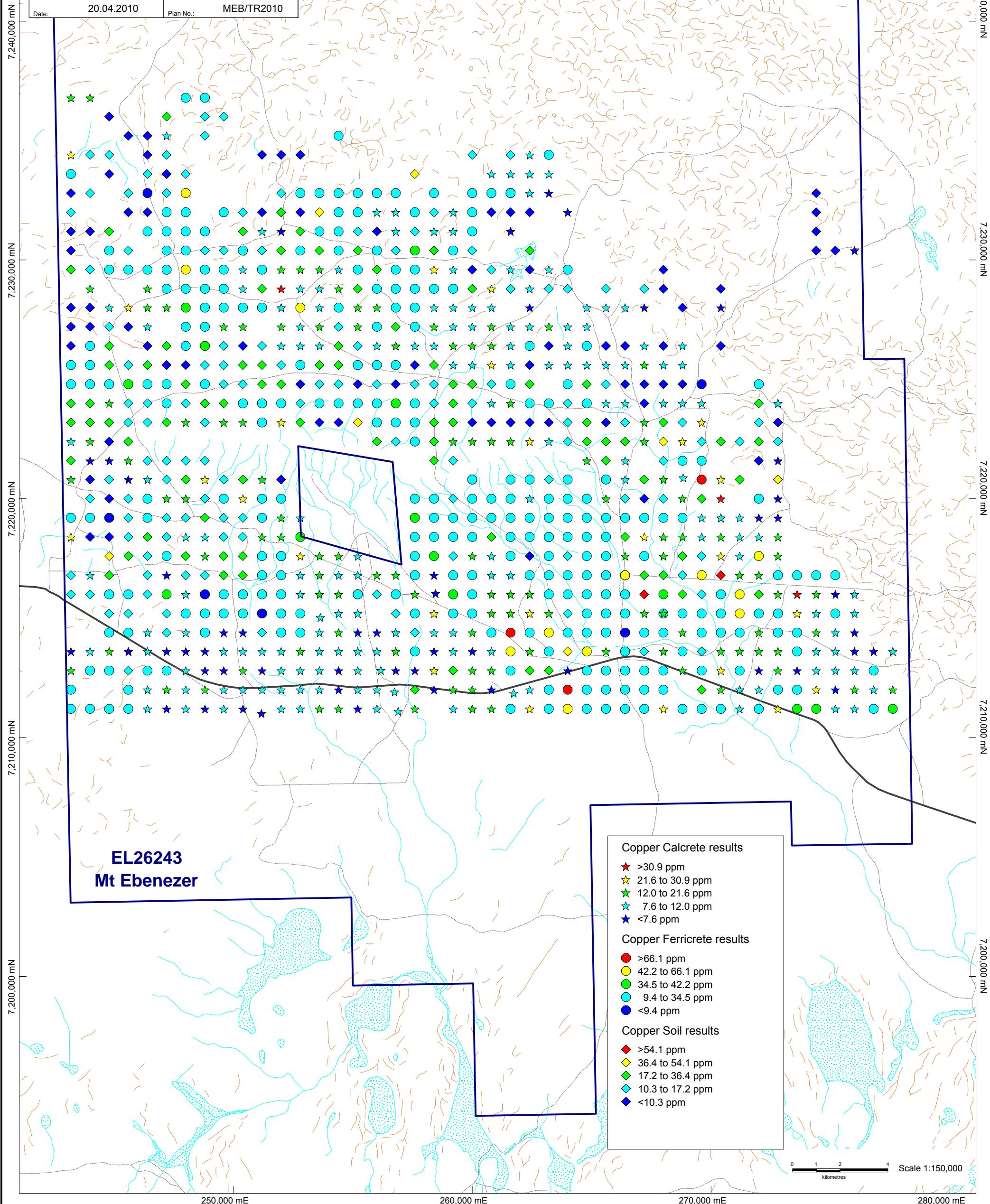
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## KULGERA PROJECT, NT

### EL 26243 - MT EBENEZER COPPER RESULTS

Figure 9

Project: KULGERA PROJECT, NT  
Title: EL 26243 - MT EBENEZER COPPER RESULTS  
Requested by: D. McAvaney Drawn by: M. Walter  
Scale: 1:150,000 (A3) Datum: MGA z53 (GDA 94)  
Date: 20.04.2010 Plan No.: MEB/TR2010





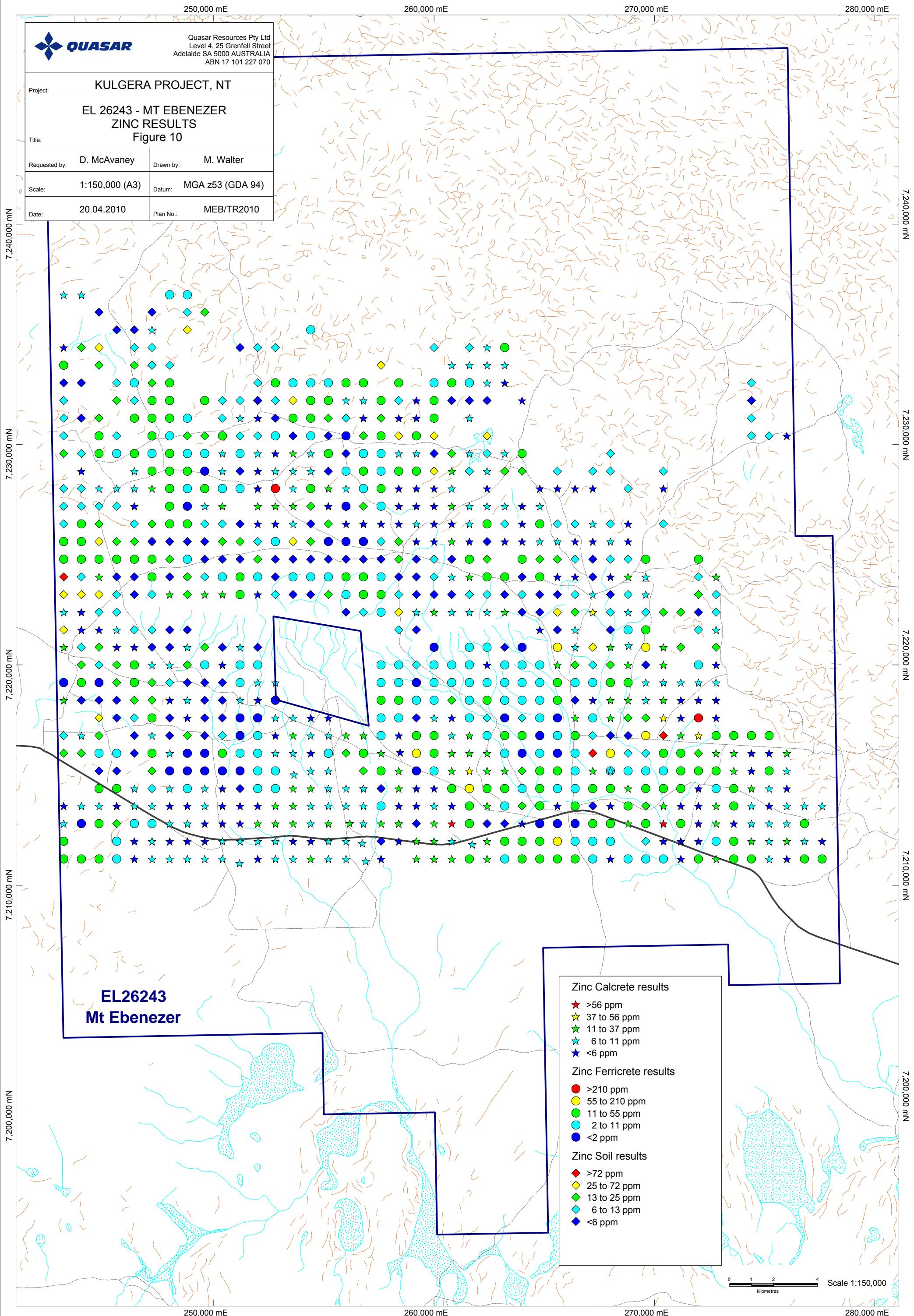
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KULGERA PROJECT, NT  
EL 26243 - MT EBENEZER  
ZINC RESULTS  
Figure 10

Requested by: D. McAvaney Drawn by: M. Walter

Scale: 1:150,000 (A3) Datum: MGA z53 (GDA 94)

Date: 20.04.2010 Plan No.: MEB/TR2010





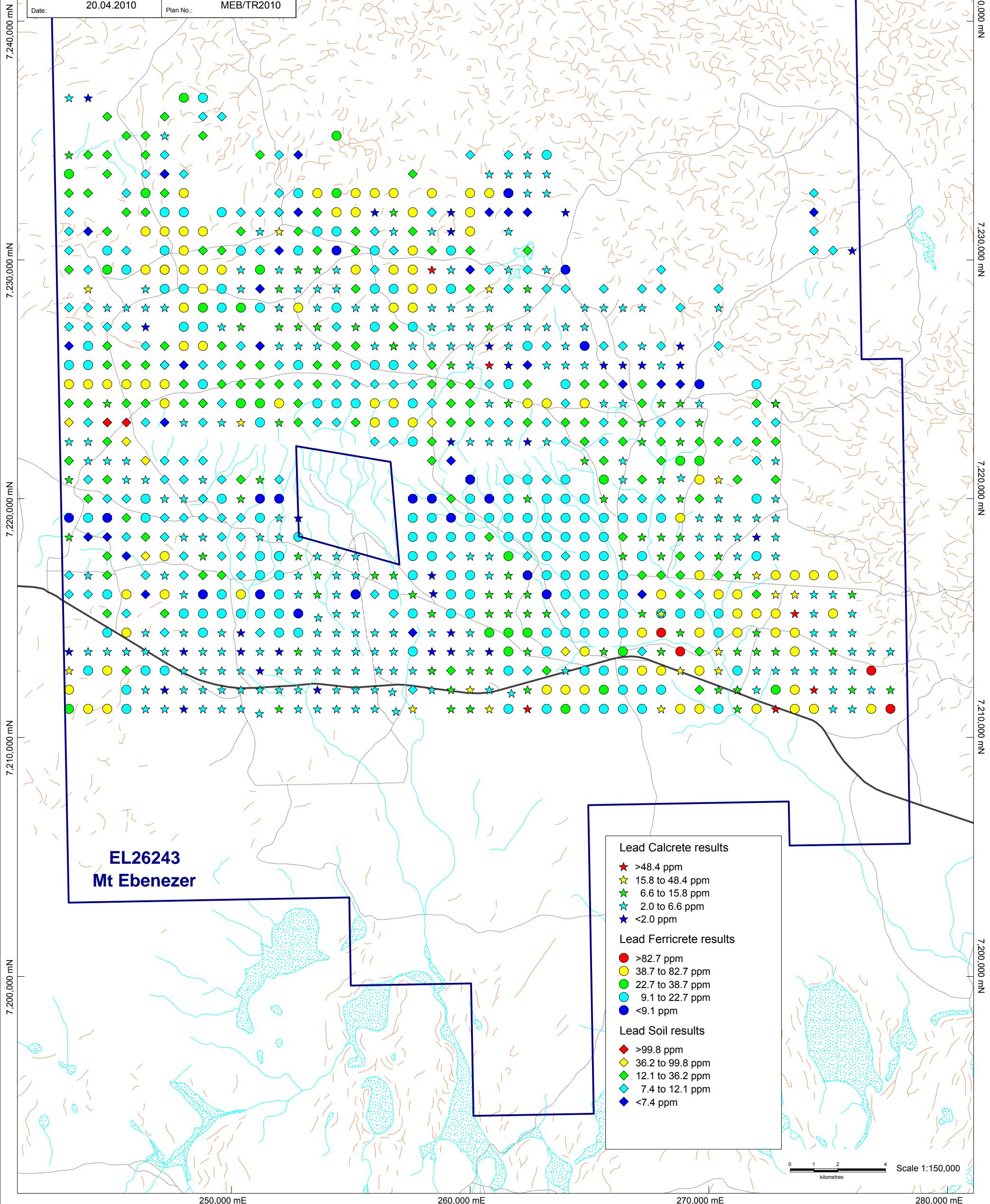
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### KULGERA PROJECT, NT

#### EL 26243 - MT EBENEZER LEAD RESULTS

Figure 11

Requested by:	D. McAvaney	Drawn by:	M. Walter
Scale:	1:150,000 (A3)	Datum:	MGA z53 (GDA 94)
Date:	20.04.2010	Plan No.:	MEB/TR2010





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KULGERA PROJECT, NT

EL 26243 - MT EBENEZER  
SURFACE GEOLOGY 1M (Liu, et al. 2006)

Figure 12

Requested by: D. McAvaney M. Walter

Scale: 1:150,000 (A3) Datum: MGA z53 (GDA 94)

Date: 20.04.2010 Plan No.: MEB/TR2010

