# Open File Envelope No. 11,848

## EL 3137, EL 3138 AND EL 3257

## MACDONALD HILL, MINGARY AND BULLOO CREEK (DREW HILL PROJECT)

## FIRST PARTIAL SURRENDER / SECOND PARTIAL SURRENDER REPORTS AT PROJECT LICENCES' EXPIRY/RENEWAL, FOR THE PERIOD 30/9/2003 TO 29/9/2008

Submitted by
Exco Resources (SA) Pty Ltd
2009



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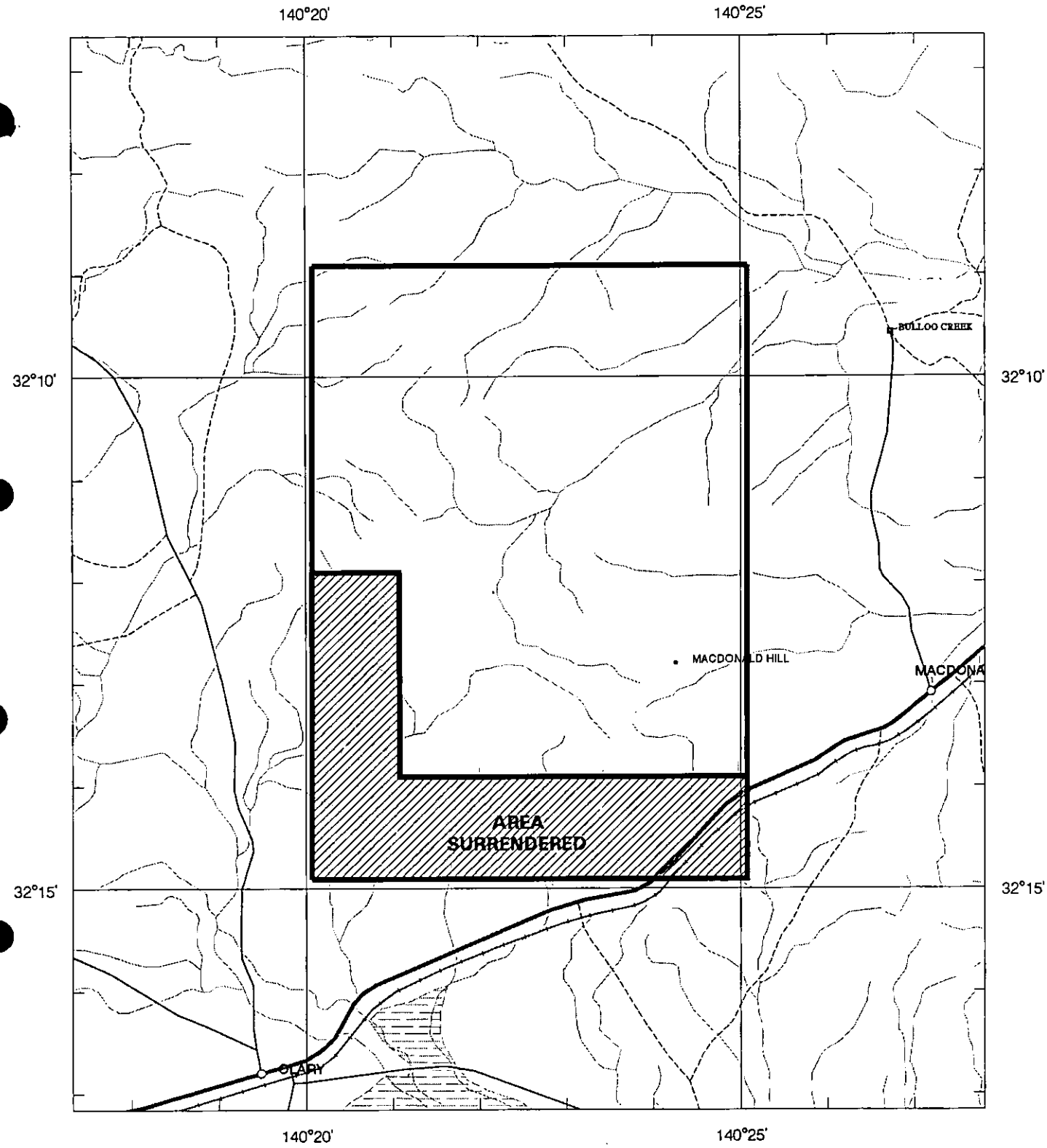
Minerals and Energy Resources
7th Floor
101 Grenfell Street, Adelaide 5000

Telephone: (08) 8463 3000
Facsimile: (08) 8204 1880

Government of South Australia
Primary Industries and Resources SA

# SCHEDULE A




EXPIRED

SCALE 1 : 100 000

METRES 2000 0 2 4 6 8 10 KILOMETRES

LICENCE GRANTED IN : DATUM AGD66

GDA
GEOCENTRIC DATUM OF AUSTRALIA

APPLICANT : ~~EXCO RESOURCES NL~~ BIMOA MINING PL

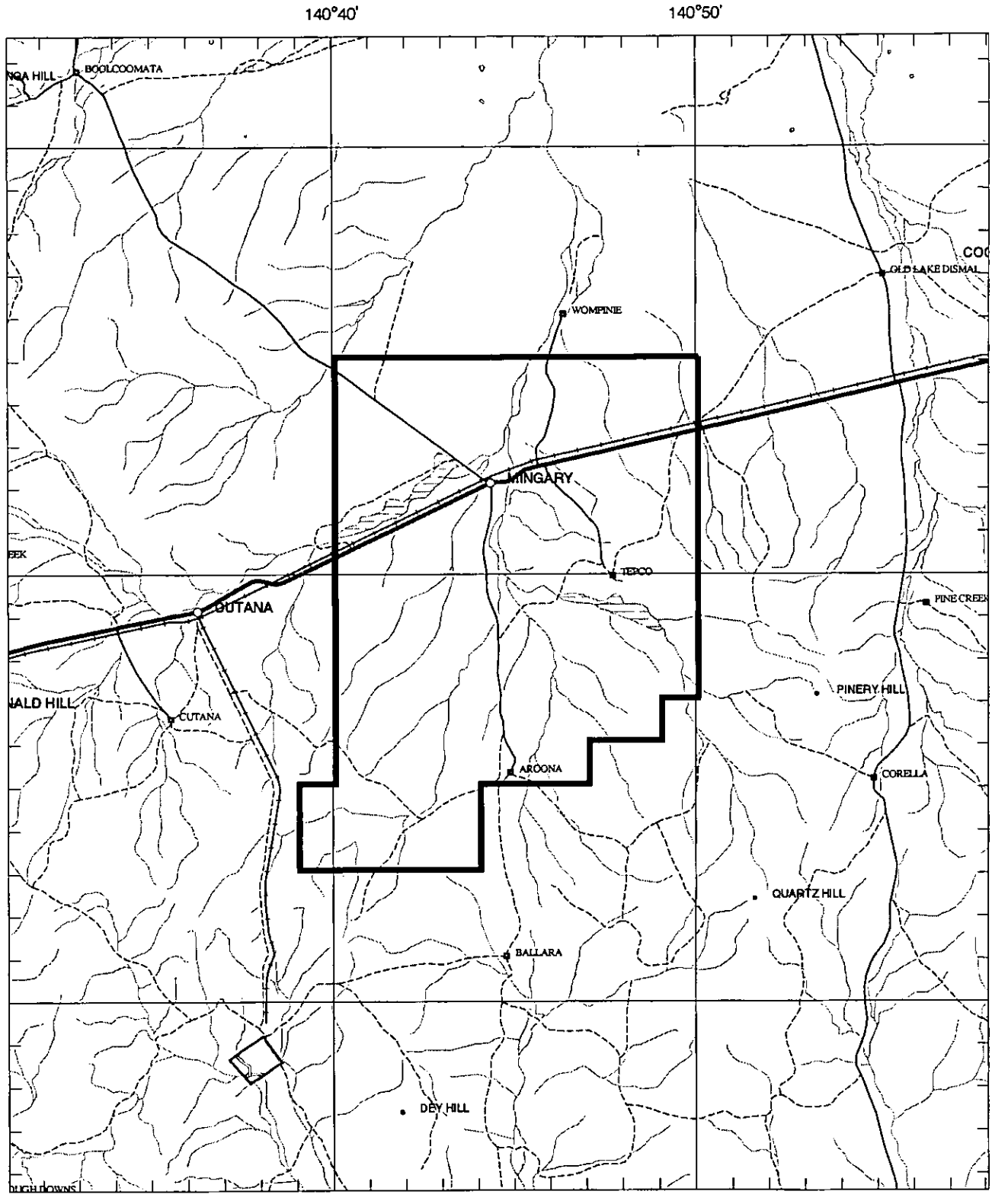
FILE REF : **87/03** TYPE : **MINERAL ONLY** AREA : **67** km² (approx.)

1:250000 MAPSHEETS : **OLARY**

LOCALITY : **MACDONALD HILL AREA - Approximately 10 km northeast of Olary**

DATE GRANTED : **30-Sep-2003** DATE EXPIRED : **29-Sep-~~2004~~ 2005** EL NO : **3137**

# SCHEDULE A




EXPIRED

SCALE 1 : 250 000

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APPLICANT : ~~EXCO RESOURCES NL~~ BIMBA MINING PTY LTD

APPLICATION LODGED IN : DATUM AGD66

GDA GEOCENTRIC DATUM OF AUSTRALIA

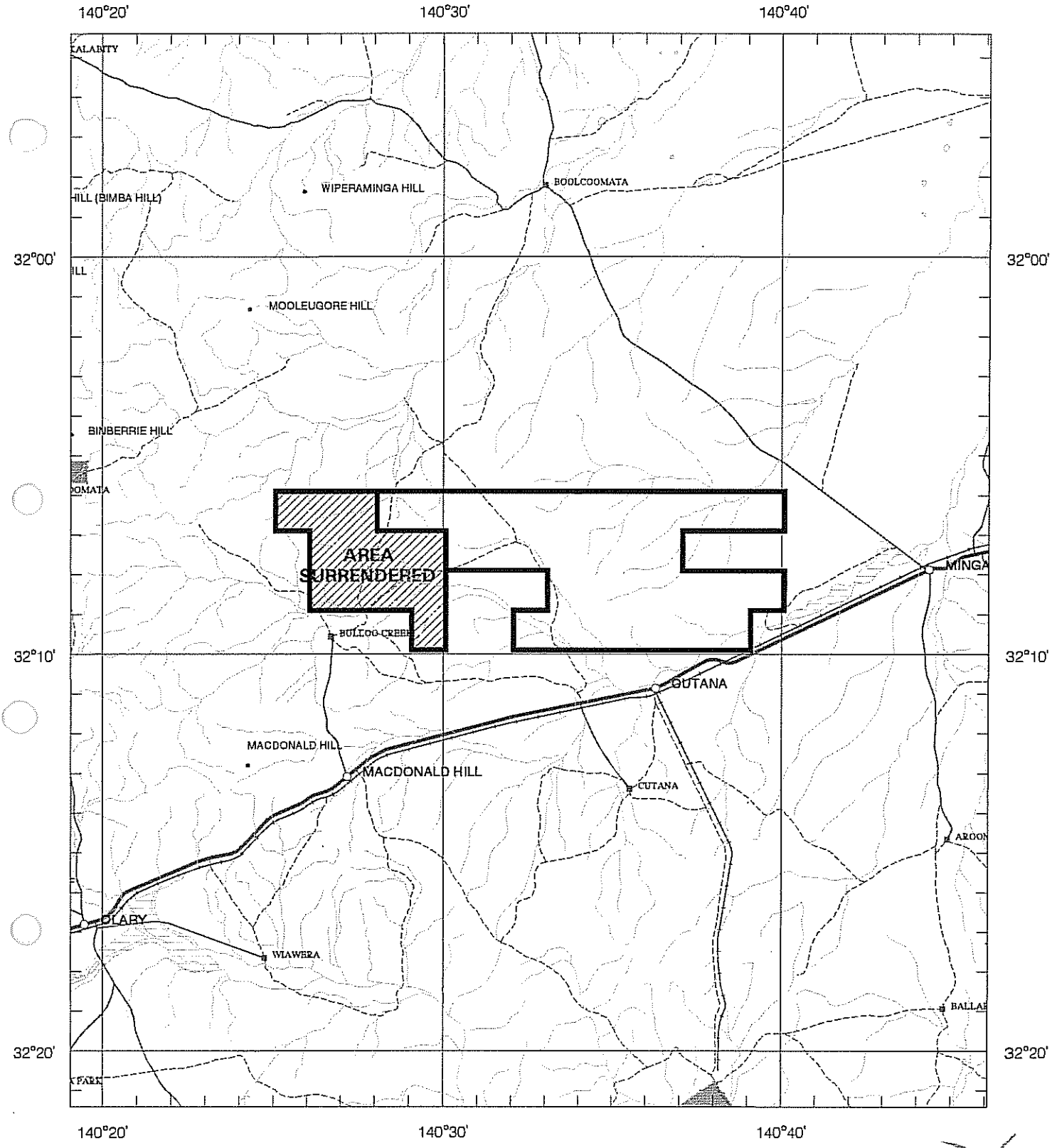
FILE REF : **86/03** TYPE : **MINERAL ONLY** AREA : **308** km² (approx.)

1:250000 MAPSHEETS : **OLARY**

LOCALITY : **MINGARY AREA - Approximately 42 km northeast of Olary**

DATE GRANTED : **30 September 2003** DATE EXPIRED : **29 September ~~2004~~ 2005** **EL No : 3138**

# SCHEDULE A




SCALE 1: 250 000

KILOMETRES 5 0 5 10 15 20 25 KILOMETRES

LICENCE GRANTED IN : DATUM AGD66

APPLICANT : **EXCO RESOURCES (SA) PTY LTD, EXCO OPERATIONS (SA) LTD**

FILE REF : **591/04** TYPE : **MINERAL ONLY** AREA : **96** km² (approx.)

1:250000 MAPSHEETS : **OLARY**

LOCALITY : **BULLOO CREEK AREA - Approximately 25 km northeast of Olary**

DATE GRANTED : **29-Sep-2004** DATE EXPIRED : **28-Sep-2008** EL NO : **3257**

RESOURCES (SA) PTY LTD

DREW HILL PROJECT
SOUTH AUSTRALIA

# PARTIAL SURRENDER REPORT
# EXPLORATION LICENCE 3137

13 MAY 2009


Tenement Holder: Exco Resources (SA) Pty Ltd
Prepared by: Andrew McDonald


## DISTRIBUTION

Department of Primary Industries and Resources – South Australia
Exco Resources Ltd

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**FIGURES**

## 1. SUMMARY OF ACTIVITIES

Exco Resources (SA) Pty Ltd ("Exco") applied for EL 3137 in June 2003. The tenement was granted on the 30th September 2003.

In 2005, Noranda Pacific Pty Ltd ("Noranda") entered into an option with Exco whereby Noranda could acquire a 70% interest on new discoveries on the tenement. Noranda withdrew from the option in October 2006.

In August 2004, Geoimage of Brisbane was commissioned by Noranda to acquire process and interpret Aster satellite imagery over the Drew Hill tenements, including the surrendered blocks.

An airphoto interpretation was commissioned by Noranda in March 2005 to provide a detailed base map to be used in combination with government geophysics and geological mapping.

EL3137 had its five year anniversary on the 29th of September 2008. Exco was granted the subsequent EL4199 on 10th November 2008 which included a 25% reduction in area.

## 2. INTRODUCTION

### *2.1. GENERAL*

The following report details work done over the area of EL 3137 that is being relinquished for the period 30th September 2003 to 29th September 2008.

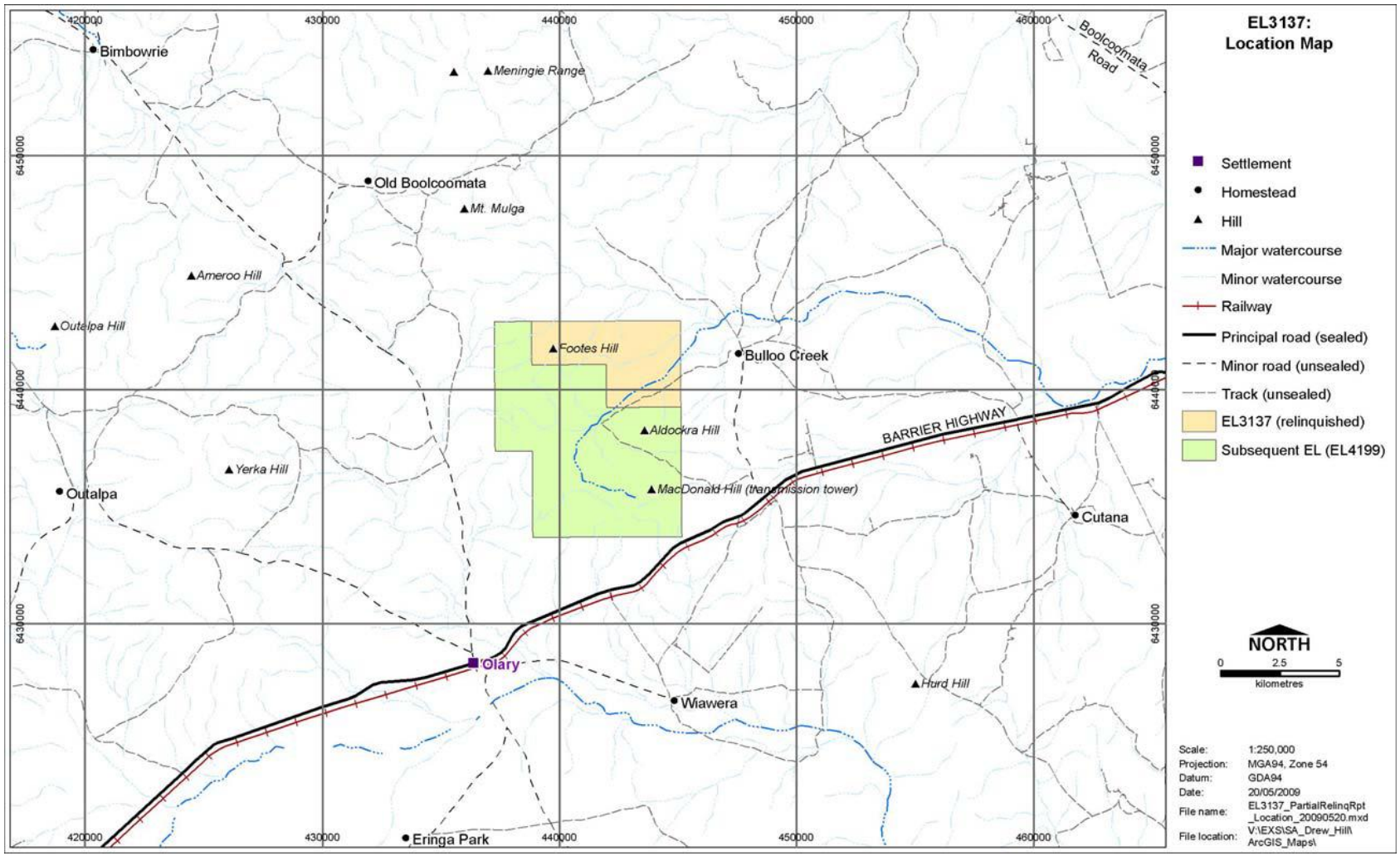
### *2.2. LOCATION AND ACCESS*

EL 3137 is located approximately 10 km northeast of the Olary township, in the north of the Olary (SI 54-2) 1:250,000 GSSA map sheet.

Access from Olary is via the Barrier Highway then station tracks. The boundary of the tenement lies between the longitudes 140° 20'E and 140° 25'E and the latitudes 32°09'S and 32°14'S.

The portion of EL3137 being relinquished lies between 140° 21'E and 140° 25'E and the latitudes 32°09'S and 32°11'S.

***FIGURE 1 – LOCATION MAP FOR EL 3137***



## 3. GEOLOGY

The Drew Hill Project is located in the South Australian segment of Curnamona Craton. The Curnamona Craton was originally a rifted sedimentary basin filled with Lower Proterozoic Willyama Supergroup shallow-marine sediments, evaporates and mafic volcanics. These have been deformed and metamorphosed into a belt of high-grade gneisses and schists, and then intruded by Middle Proterozoic granites. The craton spars the NSW-SA border between Olary in SA and Broken Hill in NSW. It is divided into two major structural and stratigraphic segments: the Broken Hill Block to the east and the Olary Block to the west. These two blocks are separated by the NNE trending Mundi Mundi Fault.

Both segments of the craton are extensively mineralized. The most important deposit is the Broken Hill Pb-Zn-Ag deposit, however, there are numerous other sedimentary deposits including exhalative Pb-Zn-Ag, volcano-exhalative Cu-Au, epigenetic Cu-Au-Mo, epigenetic U and diagenetic U deposits. The epigenetic Cu-Au-Mo mineralization has been mined at several locations within the Olary Block. It is associated with intense albite alteration and is usually accompanied by haematite and magnetite. It is thought to have been deposited either by fluids derived from the metamorphism of the underlying evaporate sequence or by magmatic fluids from the later granite intrusions. It is broadly stratabound and disseminated, but locally controlled by veins and fractures. The gold mineralization at Drew Hill is of the epigenetic Au-Cu-Mo type.

The Drew Hill Project is within the Olary Block. The tenements comprise deformed, albitised pelitic schists, calc-silicate schists and gneisses of the upper Early Proterozoic Willyama Super Group, overlain by thin soil cover (Figure 2). Undifferentiated gneissic, schistose and magmatic rocks crop out over the relinquished parts of EL 3137. A detailed geological description of the area is provided in the Olary 1:250,000 geological notes (Forbes, 1991).

***FIGURE 2 – REGIONAL GEOLOGY***

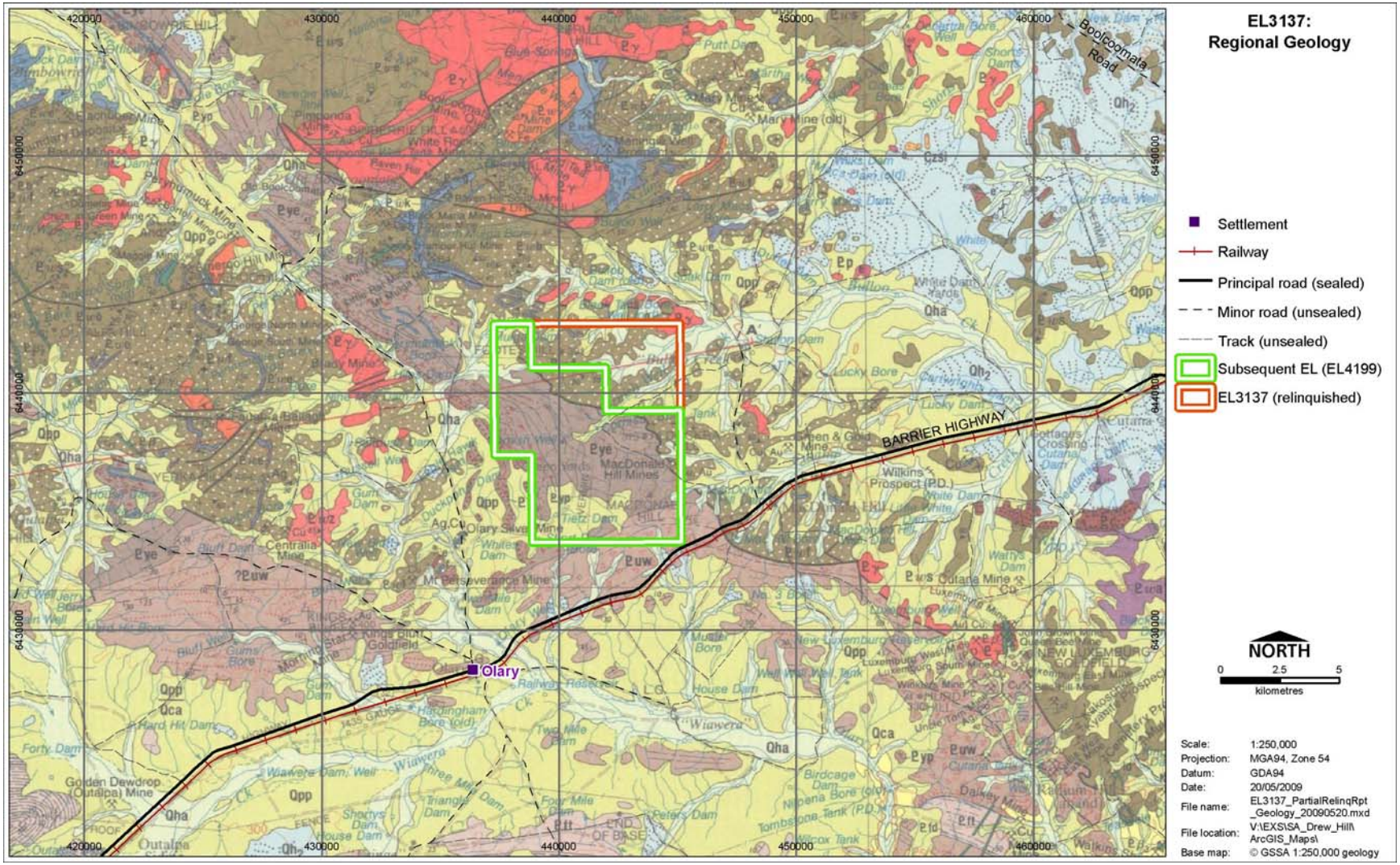
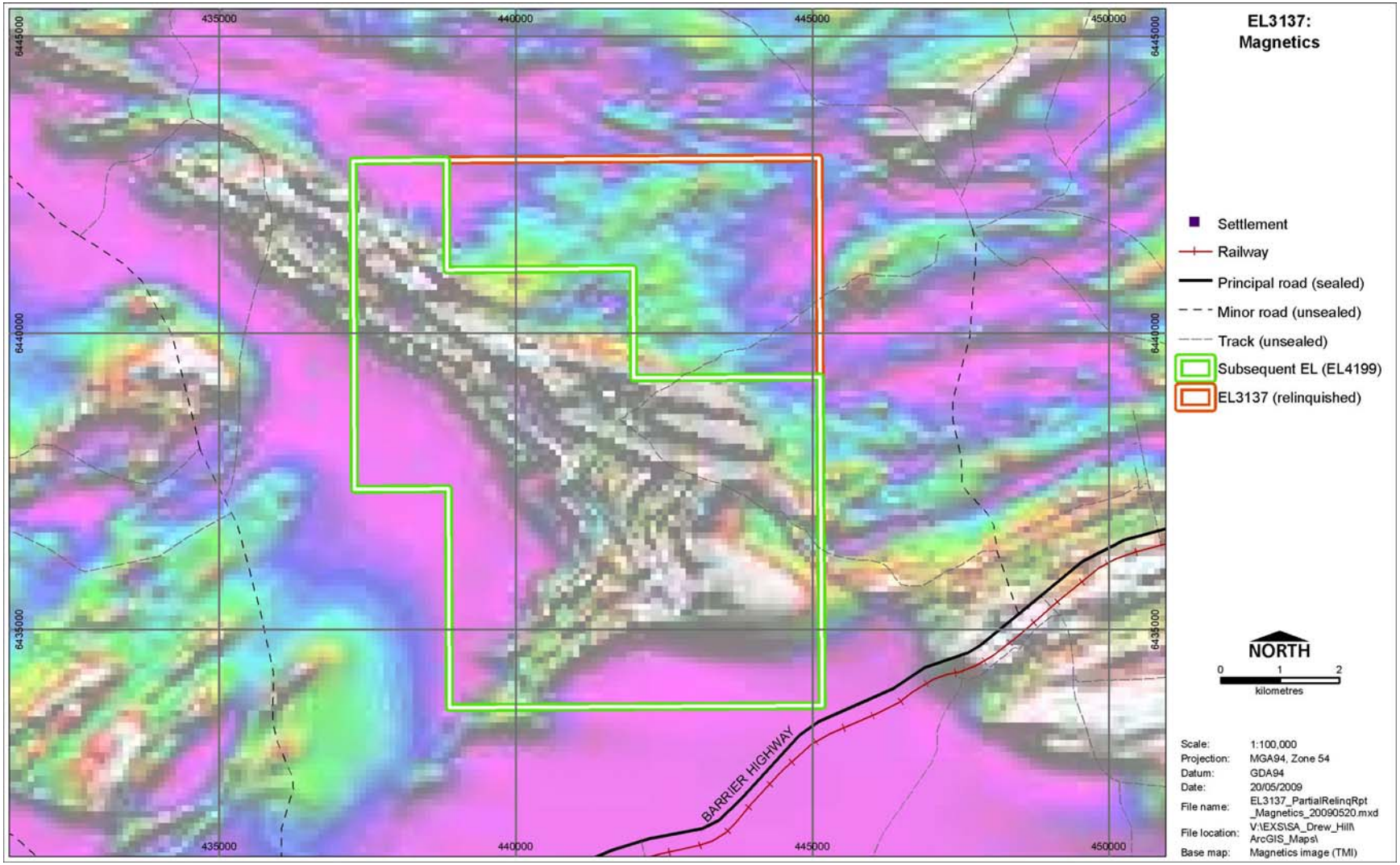


***FIGURE 3 – REGIONAL MAGNETICS***



## 4. EXPLORATION ACTIVITIES

### *4.1. ASTER IMAGERY (2004)*

Geolmage of Brisbane were commissioned in November 2004 to acquire, process and interpret Aster satellite imagery over the Drew Hill tenements as a precursor to detailed airphoto interpretation, ground truthing and later geophysics and drilling. Geolmage provided Noranda with filtered and processed images including SWIR, VNIR and Landsat TM247 lookalikes (Figure 4). These were used in the desktop review of targets and early anomaly prioritization and were also provided as detailed base maps for the airphoto interpretation. The full result of this work has been submitted as an Appendix to the report submitted in requirements of PACE Drilling Proposal DPY2-34 (Hatton, 2006).

### *4.2. AIRPHOTO INTERPRETATION (2005)*

Dr Stephen Snodin (Snodin Photogeological Services, ACT) was commissioned by Noranda in March 2005 to carry out a detailed airphoto geological interpretation of the greater Drew Hill JV (Figure 5). This interpretation provided a geological interpretation based upon stereoscopic airphotos, georeferenced ASTER imagery and open-file information at 1:50,000. The plans for this work have been submitted in a previous report submitted in requirements of PACE Drilling Proposal DPY2-34 (Hatton 2006).

***FIGURE 4 - EL 3137 ASTER IMAGERY***

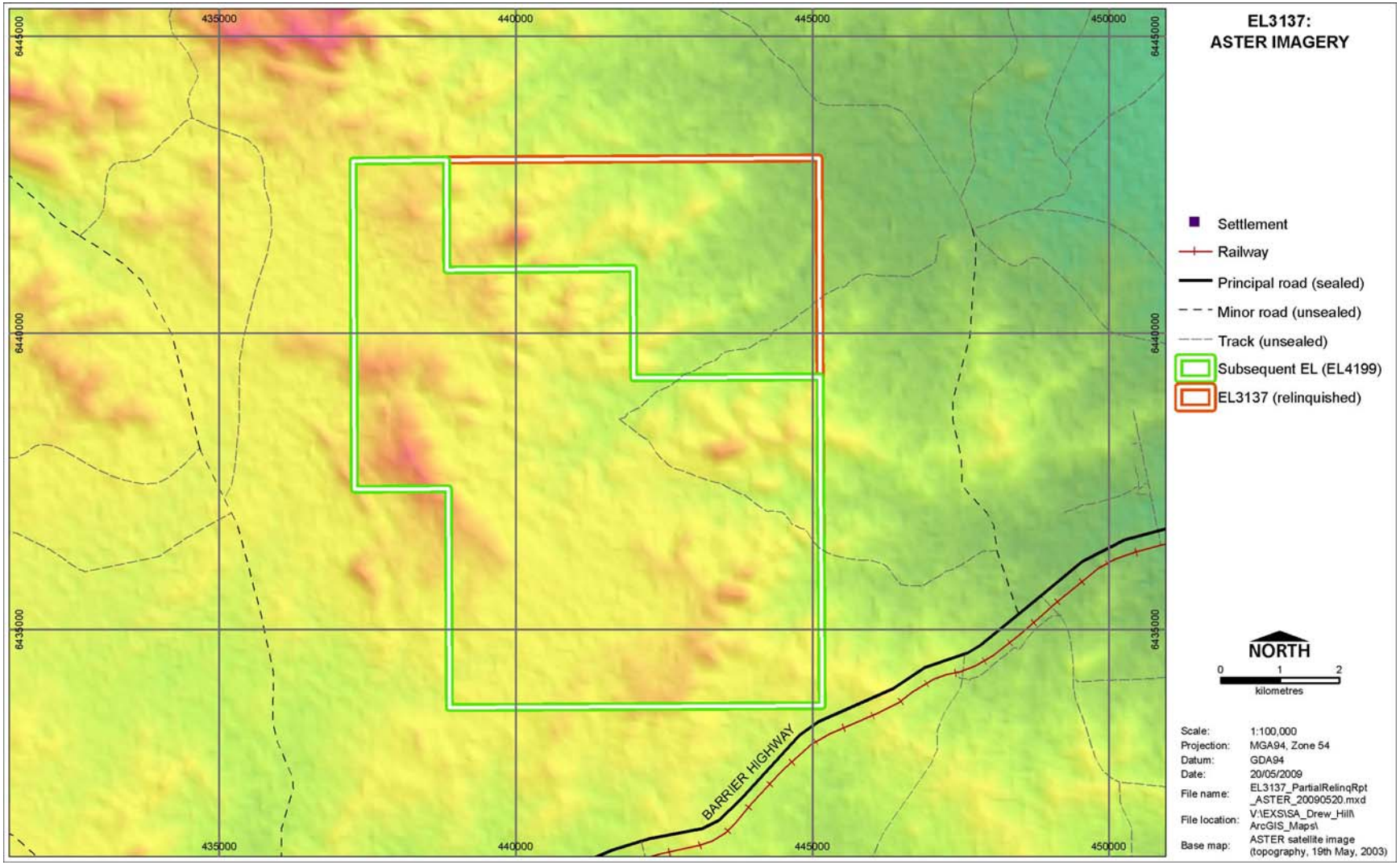
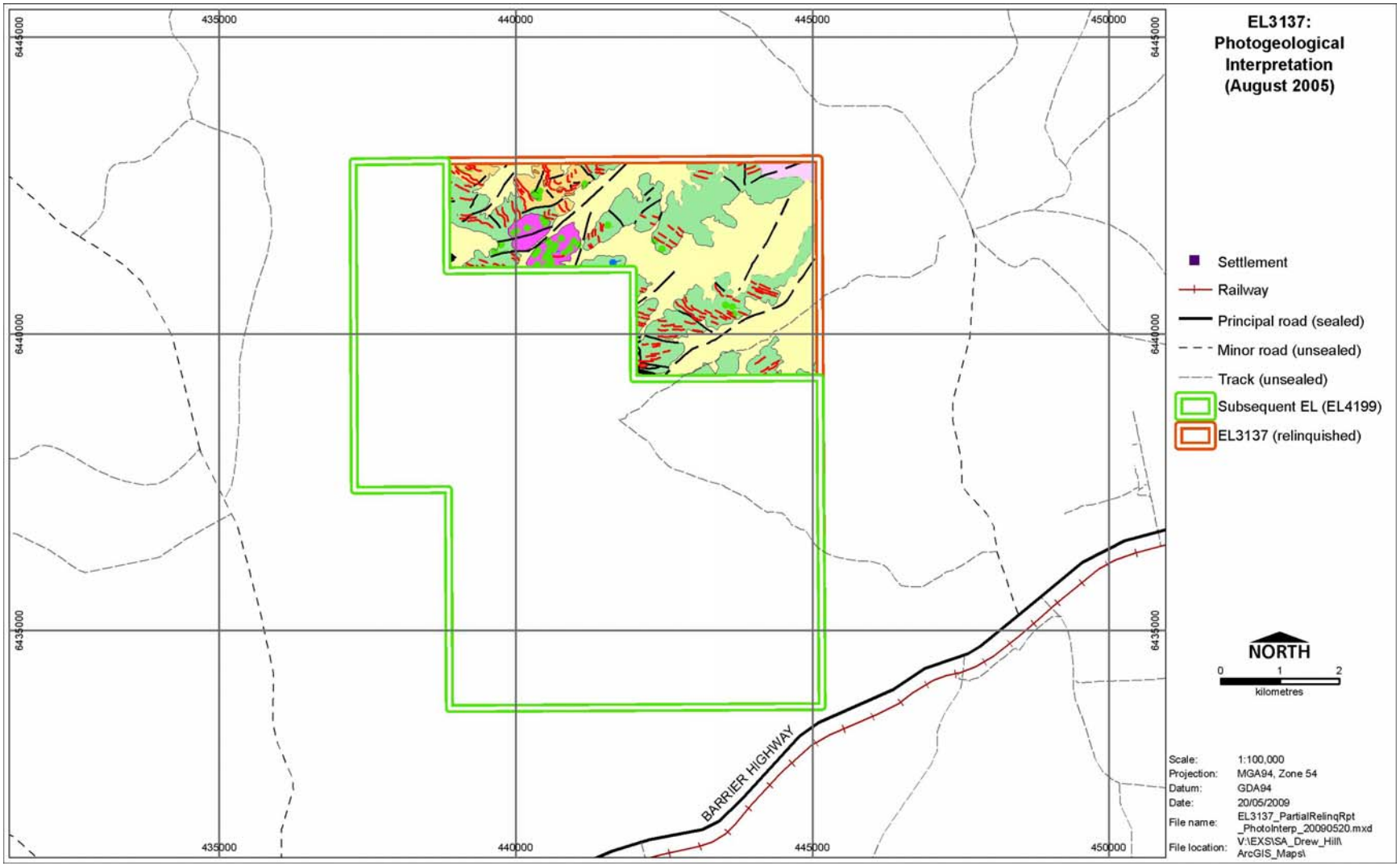
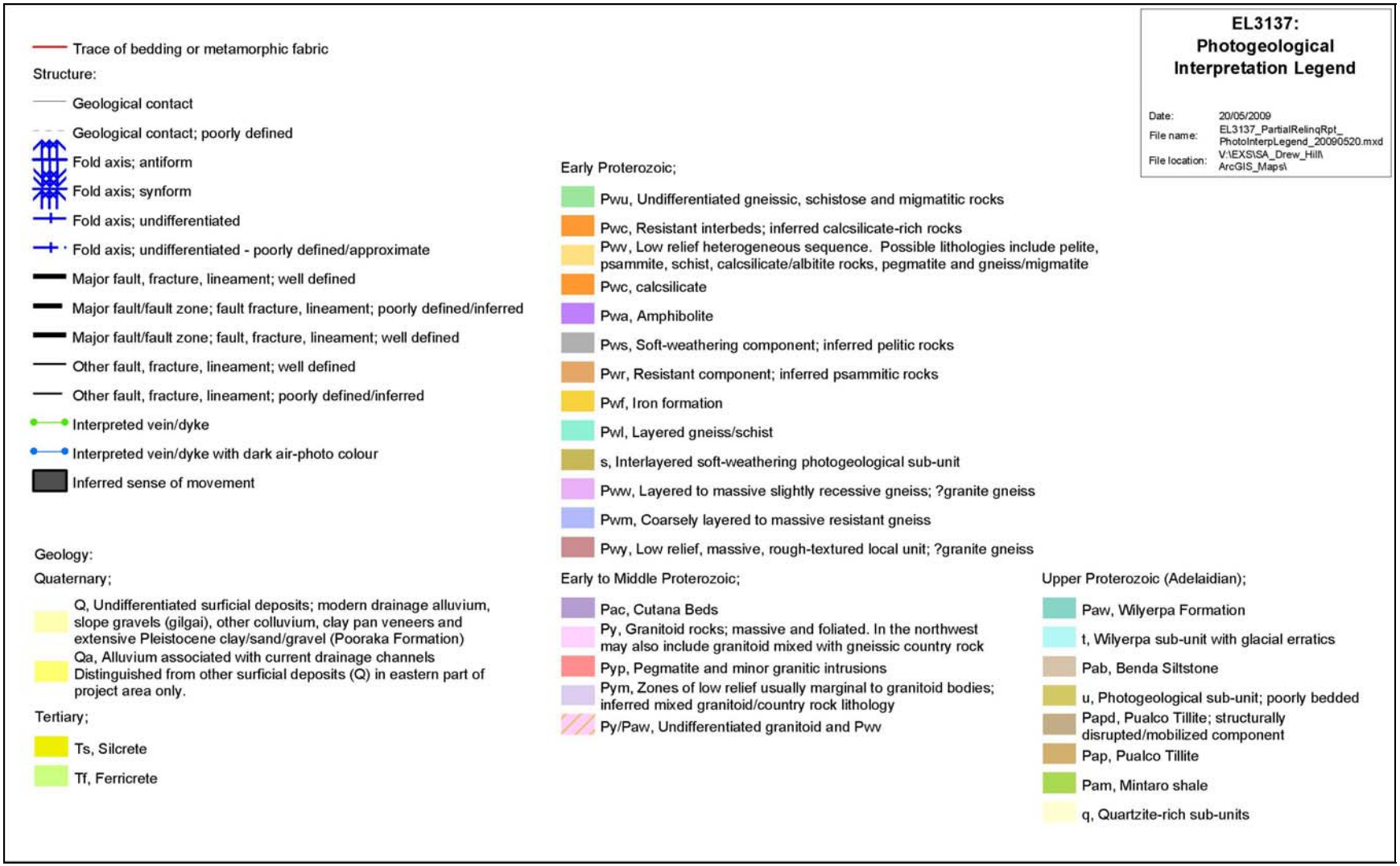


***FIGURE 5 – PHOTOGEOLOGICAL INTERPRETATION - SNODIN***

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Photogeological
Interpretation Legend
Date: 20/05/2009
File name: EL3137_PartialRelinqRpt_PhotoInterpLegend_20090520.mxd
File location: V:\EXS\SA_Drew_Hill\ArcGIS_Maps\
Trace of bedding or metamorphic fabric
Structure:
Geological contact
Geological contact; poorly defined
Fold axis; antiform
Fold axis; synform
Fold axis; undifferentiated
Fold axis; undifferentiated - poorly defined/approximate
Major fault, fracture, lineament; well defined
Major fault/fault zone; fault fracture, lineament; poorly defined/inferred
Major fault/fault zone; fault, fracture, lineament; well defined
Other fault, fracture, lineament; well defined
Other fault, fracture, lineament; poorly defined/inferred
Interpreted vein/dyke
Interpreted vein/dyke with dark air-photo colour
Inferred sense of movement
Geology:
Quaternary;
Q, Undifferentiated surficial deposits; modern drainage alluvium, slope gravels (gilgai), other colluvium, clay pan veneers and extensive Pleistocene clay/sand/gravel (Pooraka Formation)
Qa, Alluvium associated with current drainage channels Distinguished from other surficial deposits (Q) in eastern part of project area only.
Tertiary;
Ts, Silcrete
Tf, Ferricrete
Early Proterozoic;
Pwu, Undifferentiated gneissic, schistose and migmatitic rocks
Pwc, Resistant interbeds; inferred calcsilicate-rich rocks
Pwv, Low relief heterogeneous sequence. Possible lithologies include pelite, psammite, schist, calcsilicate/albitite rocks, pegmatite and gneiss/migmatite
Pwc, calcsilicate
Pwa, Amphibolite
Pws, Soft-weathering component; inferred pelitic rocks
Pwr, Resistant component; inferred psammitic rocks
Pwf, Iron formation
Pwl, Layered gneiss/schist
s, Interlayered soft-weathering photogeological sub-unit
Pww, Layered to massive slightly recessive gneiss; ?granite gneiss
Pwm, Coarsely layered to massive resistant gneiss
Pwy, Low relief, massive, rough-textured local unit; ?granite gneiss
Early to Middle Proterozoic;
Pac, Cutana Beds
Py, Granitoid rocks; massive and foliated. In the northwest may also include granitoid mixed with gneissic country rock
Pyp, Pegmatite and minor granitic intrusions
Pym, Zones of low relief usually marginal to granitoid bodies; inferred mixed granitoid/country rock lithology
Py/Paw, Undifferentiated granitoid and Pwv
Upper Proterozoic (Adelaidian);
Paw, Wilyerpa Formation
t, Wilyerpa sub-unit with glacial erratics
Pab, Benda Siltstone
u, Photogeological sub-unit; poorly bedded
Papd, Pualco Tillite; structurally disrupted/mobilized component
Pap, Pualco Tillite
Pam, Mintaro shale
q, Quartzite-rich sub-units

## 5 REFERENCES


- Forbes, B.G., 1991. Explanatory Notes: Geology of Olary, 1:250,000 Map Sheet. Geological Survey of South Australia

- Hatton O.J., 2006. PACE Drilling Report – Drew Hill JV, Noranda Pacific Pty Ltd. March 2006.

RESOURCES (SA) PTY LTD

DREW HILL PROJECT
SOUTH AUSTRALIA

# PARTIAL SURRENDER REPORT
# EXPLORATION LICENCE 3138

13 MAY 2009


Tenement Holder: Exco Resources (SA) Pty Ltd
Prepared by: Andrew McDonald


## DISTRIBUTION

Department of Primary Industries and Resources – South Australia
Exco Resources Ltd

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**FIGURES**

## 1. SUMMARY OF ACTIVITIES

Exco Resources (SA) Pty Ltd ("Exco") applied for EL 3138 in June 2003. The tenement was granted on the 30th September 2003.

In 2005, Noranda Pacific Pty Ltd ("Noranda") entered into an option with Exco whereby Noranda could acquire a 70% interest on new discoveries on the tenement. Noranda withdrew from the option in October 2006.

In August 2004, Geoimage of Brisbane was commissioned to acquire process and interpret Aster satellite imagery over the Drew Hill tenements, including the surrendered blocks.

An airphoto interpretation was commissioned by Noranda in March 2005 to provide a detailed base map to be used in combination with government geophysics and geological mapping.

A VTEM time-domain airborne EM system was used in June 2006 to test targets under cover for future drill targeting.

EL3138 had its five year anniversary on the 29th of September 2008. Exco was granted the subsequent EL4200 on 12th November 2008 which included a 25% reduction in area.

## 2. INTRODUCTION

### *2.1. GENERAL*

The following report details work done over the areas of EL 3138 that are being relinquished for the period 30th September 2003 to 29th September 2008.

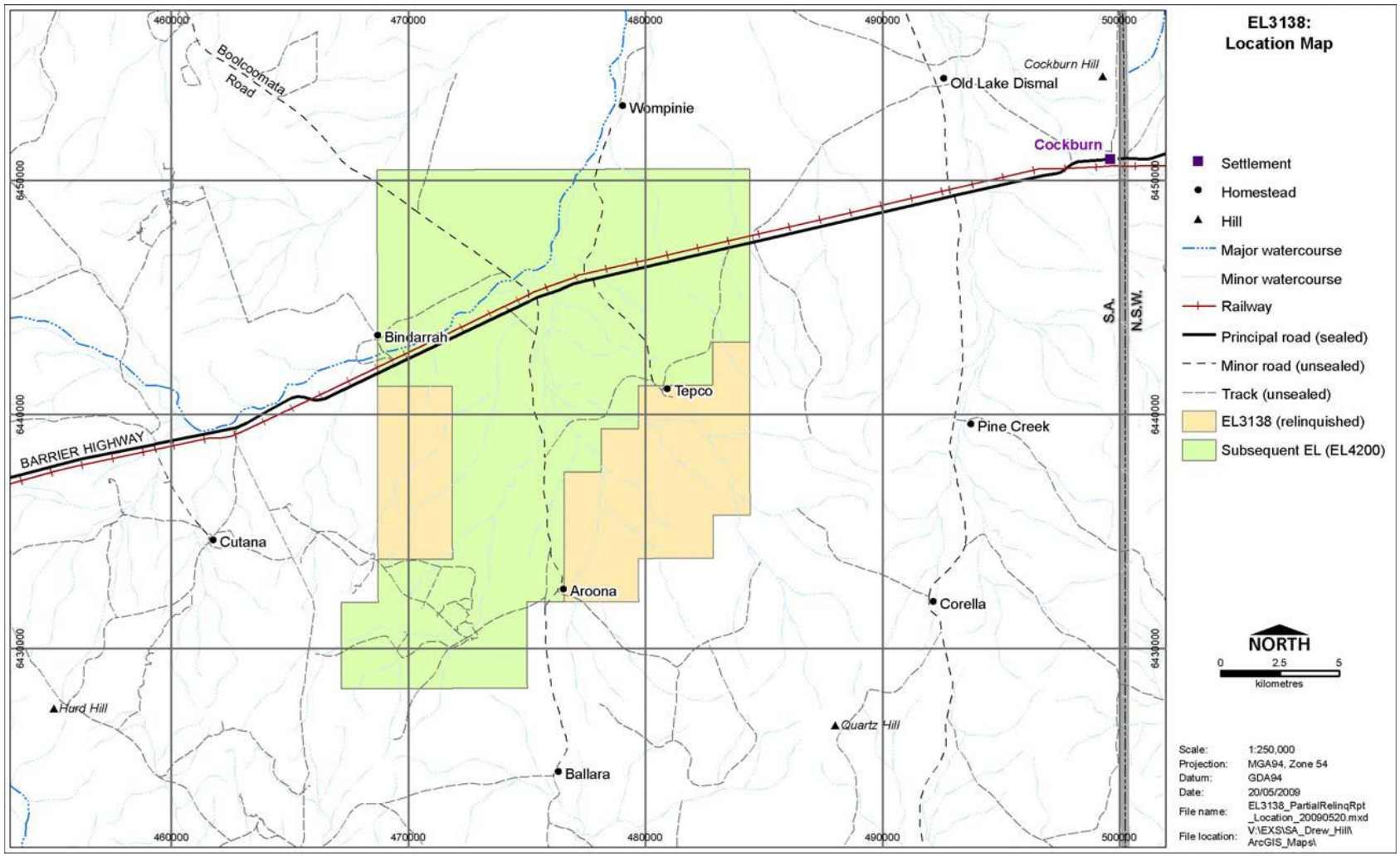
### *2.2. LOCATION AND ACCESS*

EL 3138 is located approximately 30 km northeast of the Olary township, in the north of the Olary (SI 54-2) 1:250,000 GSSA map sheet.

Access from Olary is via the Barrier Highway then station tracks. The boundary of the tenement lies between the longitudes 140° 39'E and 140° 50'E and the latitudes 32°05'S and 32°17'S.

The western portion of EL3138 being relinquished lies between 140° 40'E and 140° 42'E and the latitudes 32°10'S and 32°14'S. The eastern portion of EL3138 being relinquished lies between 140° 45'E and 140° 50'E and the latitudes 32°09'S and 32°15'S.

***FIGURE 1 – LOCATION MAP FOR EL 3138***



## 3. GEOLOGY

The Drew Hill Project is located in the South Australian segment of Curnamona Craton. The Curnamona Craton was originally a rifted sedimentary basin filled with Lower Proterozoic Willyama Supergroup shallow-marine sediments, evaporates and mafic volcanics. These have been deformed and metamorphosed into a belt of high-grade gneisses and schists, and then intruded by Middle Proterozoic granites. The craton spars the NSW-SA border between Olary in SA and Broken Hill in NSW. It is divided into two major structural and stratigraphic segments: the Broken Hill Block to the east and the Olary Block to the west. These two blocks are separated by the NNE trending Mundi Mundi Fault.

Both segments of the craton are extensively mineralized. The most important deposit is the Broken Hill Pb-Zn-Ag deposit, however, there are numerous other sedimentary deposits including exhalative Pb-Zn-Ag, volcano-exhalative Cu-Au, epigenetic Cu-Au-Mo, epigenetic U and diagenetic U deposits. The epigenetic Cu-Au-Mo mineralization has been mined at several locations within the Olary Block. It is associated with intense albite alteration and is usually accompanied by haematite and magnetite. It is thought to have been deposited either by fluids derived from the metamorphism of the underlying evaporate sequence or by magmatic fluids from the later granite intrusions. It is broadly stratabound and disseminated, but locally controlled by veins and fractures. The gold mineralization at Drew Hill is of the epigenetic Au-Cu-Mo type.

The Drew Hill Project is within the Olary Block. The tenements comprise deformed, albitised pelitic schists, calc-silicate schists and gneisses of the upper Early Proterozoic Willyama Super Group, overlain by widespread thin soil cover (Figure 2). Outcrop over the relinquished parts of EL 3138 is limited. Airborne magnetic data shows a number of magnetic linear features, some of which are probably related to increased magnetite in more albitic units (Figure 3). Magnetic lows are probably associated with units of the Pelite Suite or granitic intrusives. Detailed geology is given in the Olary 1:250,000 geological notes (Forbes, 1991).

***FIGURE 2 – REGIONAL GEOLOGY***

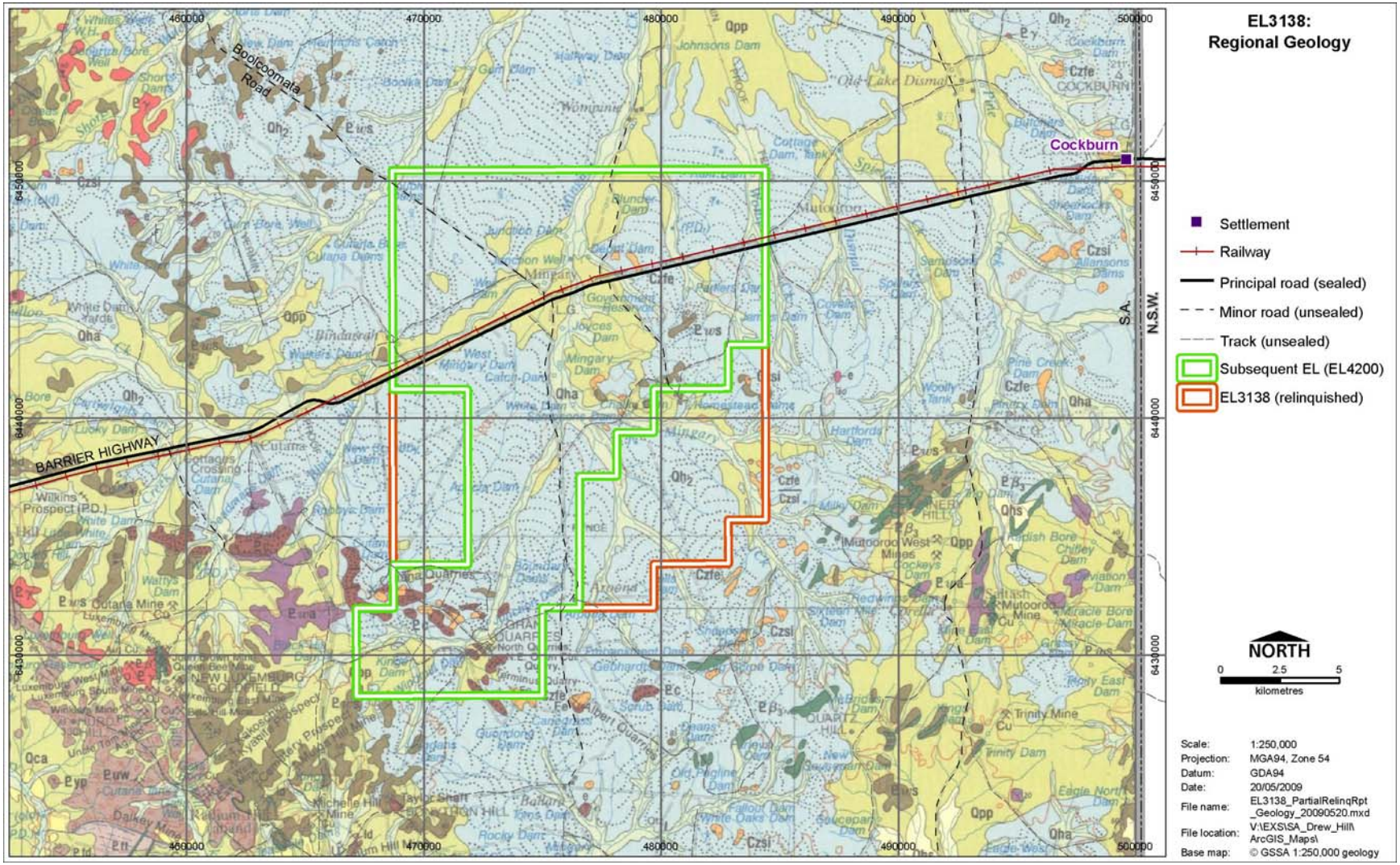
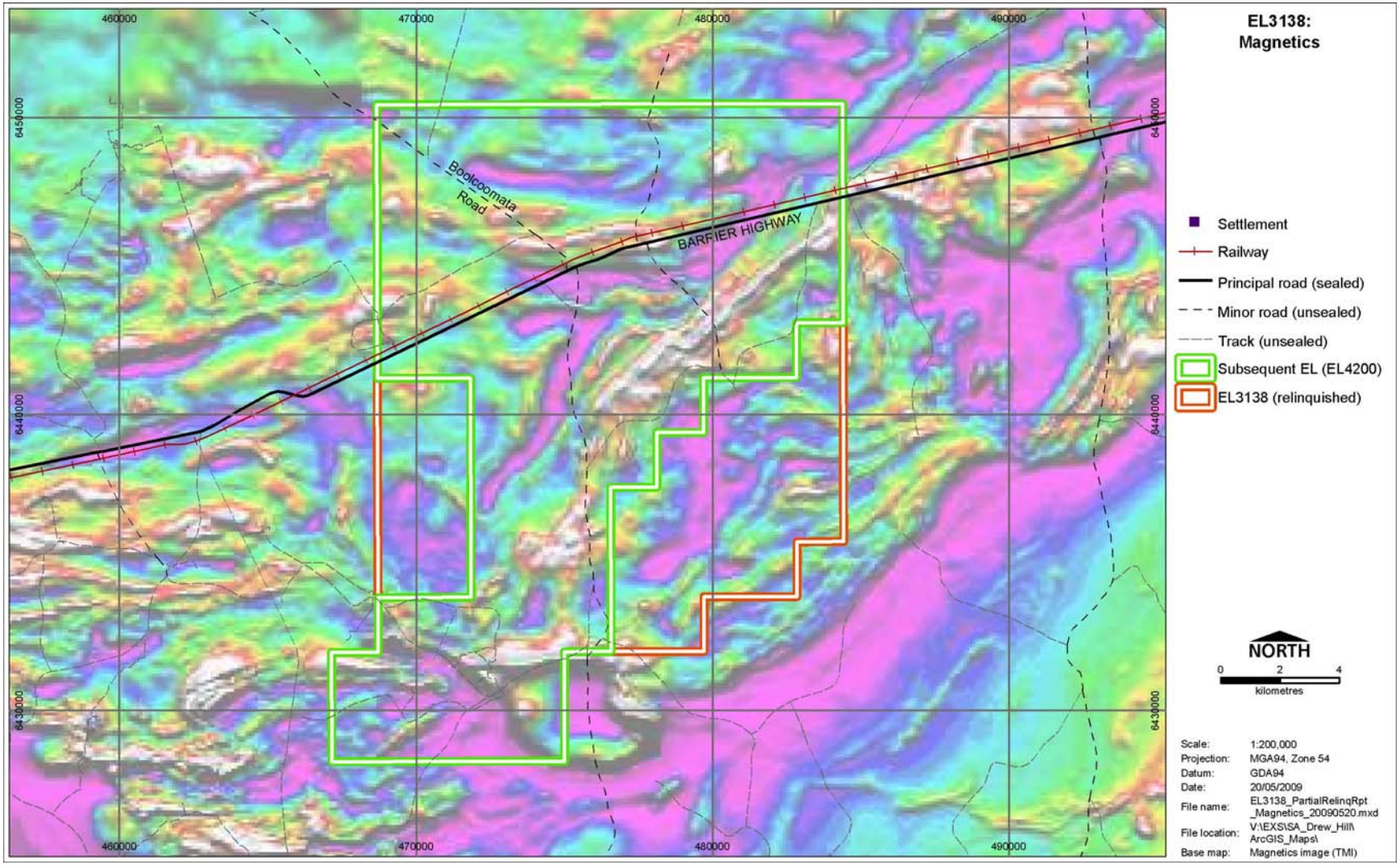


***FIGURE 3 – REGIONAL MAGNETICS***



## 4. EXPLORATION ACTIVITIES

### *4.1. ASTER IMAGERY (2004)*

Geolmage of Brisbane were commissioned in November 2004 to acquire, process and interpret Aster satellite imagery over the Drew Hill tenements as a precursor to detailed airphoto interpretation, ground truthing and later geophysics and drilling. Geolmage provided Noranda with filtered and processed images including SWIR, VNIR and Landsat TM247 lookalikes (Figure 4). These were used in the desktop review of targets and early anomaly prioritization and were also provided as detailed base maps for the airphoto interpretation. The full result of this work has been submitted as an Appendix to the report submitted in requirements of PACE Drilling Proposal DPY2-34 (Hatton 2006).

### *4.2. AIRPHOTO INTERPRETATION (2005)*

Dr Stephen Snodin (Snodin Photogeological Services, ACT) was commissioned by Noranda in March 2005 to carry out a detailed airphoto geological interpretation of the greater Drew Hill JV (Figure 5). This interpretation provided a geological interpretation based upon stereoscopic airphotos, georeferenced ASTER imagery and open-file information at 1:50,000. The plans for this work have been submitted in a previous report submitted in requirements of PACE Drilling Proposal DPY2-34 (Hatton 2006).

### *4.3. AIRBORNE GEOPHYSICS - VTEM SURVEY*

Geotech Services Pty Ltd were contracted to carry out a VTEM survey in June 2006 covering a small portion of the eastern relinquished areas of EL3138 (Figure 6). No significant late-time conductors were identified in EL 3138.

***FIGURE 4 - EL 3138 ASTER IMAGERY***

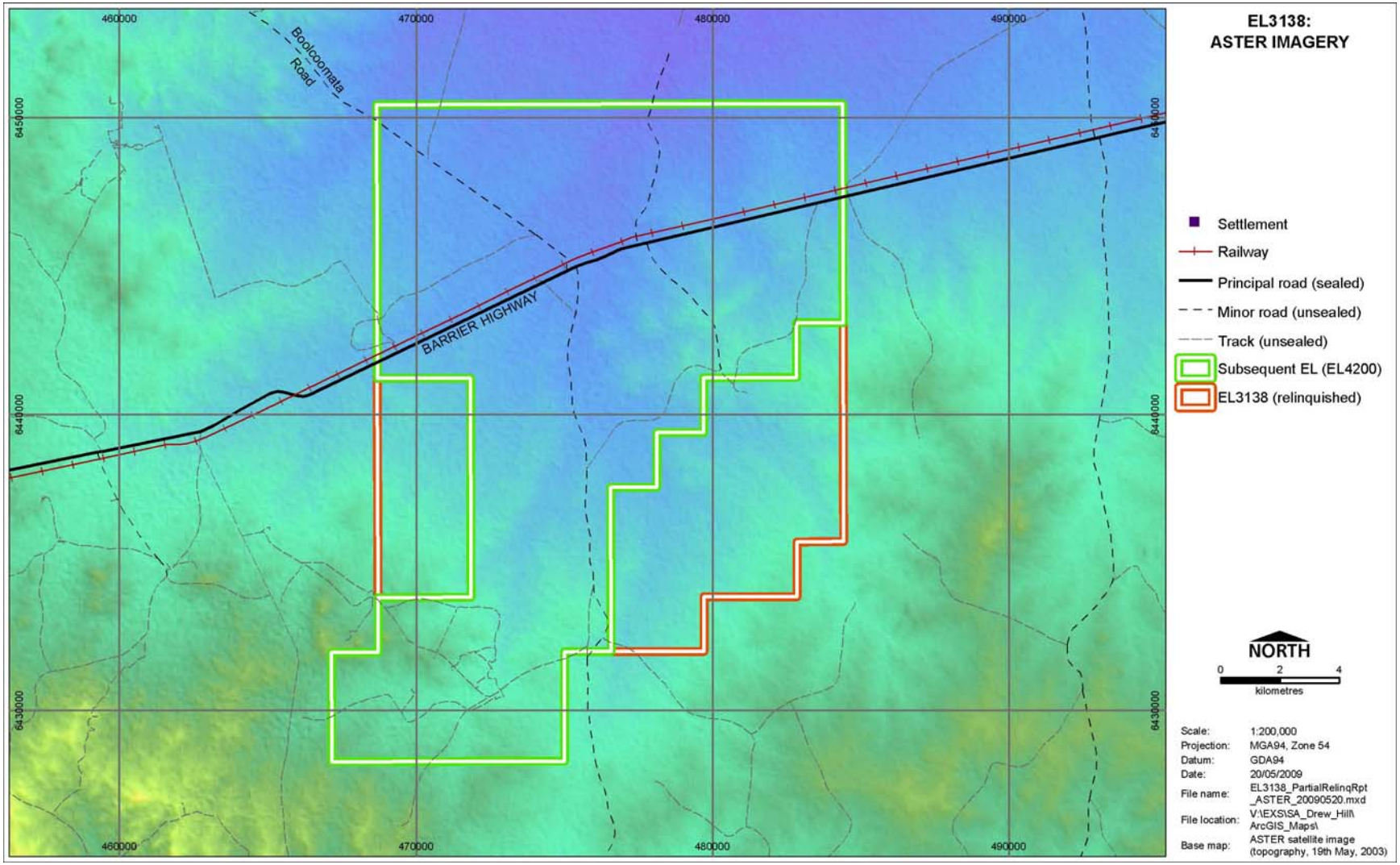
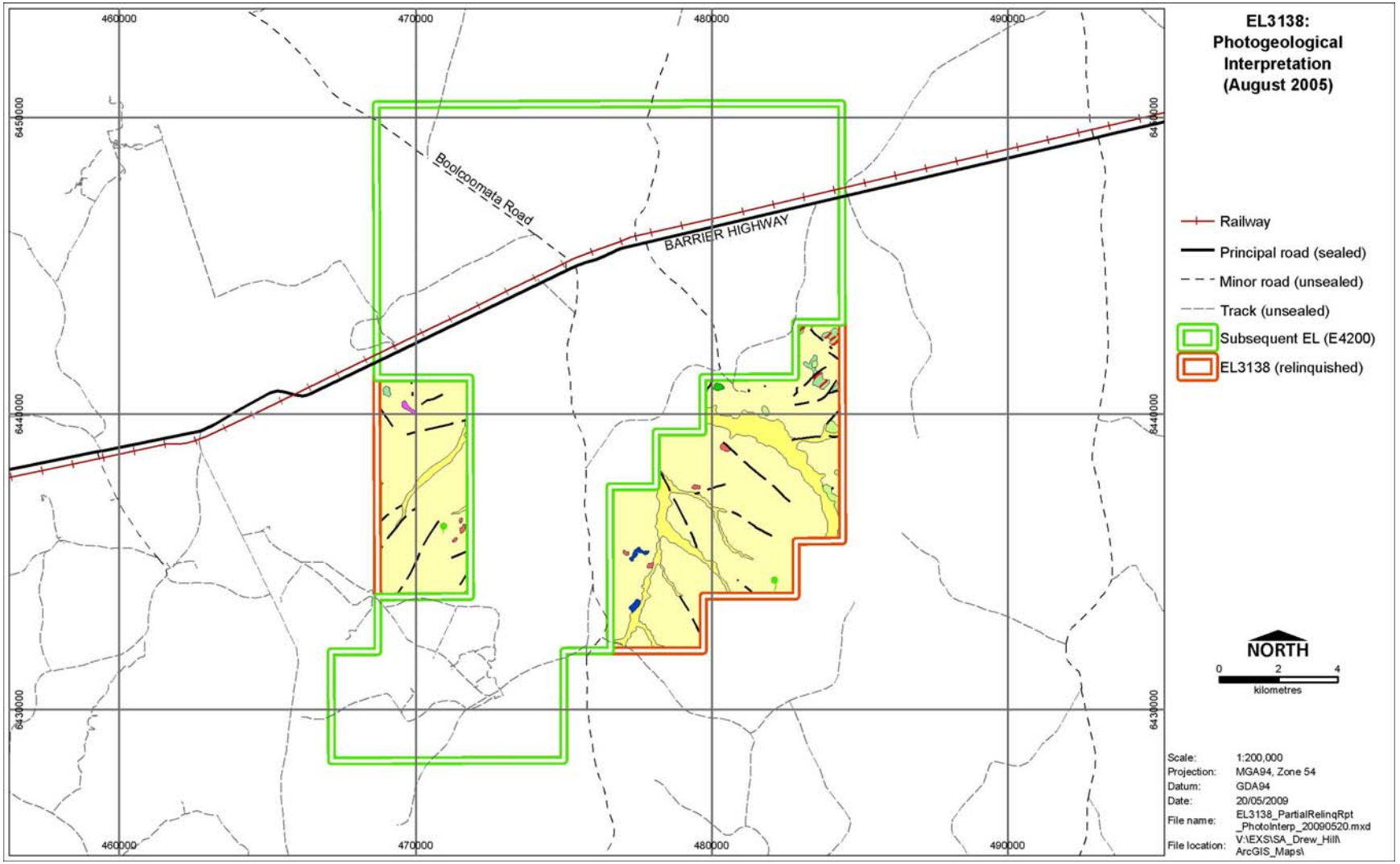
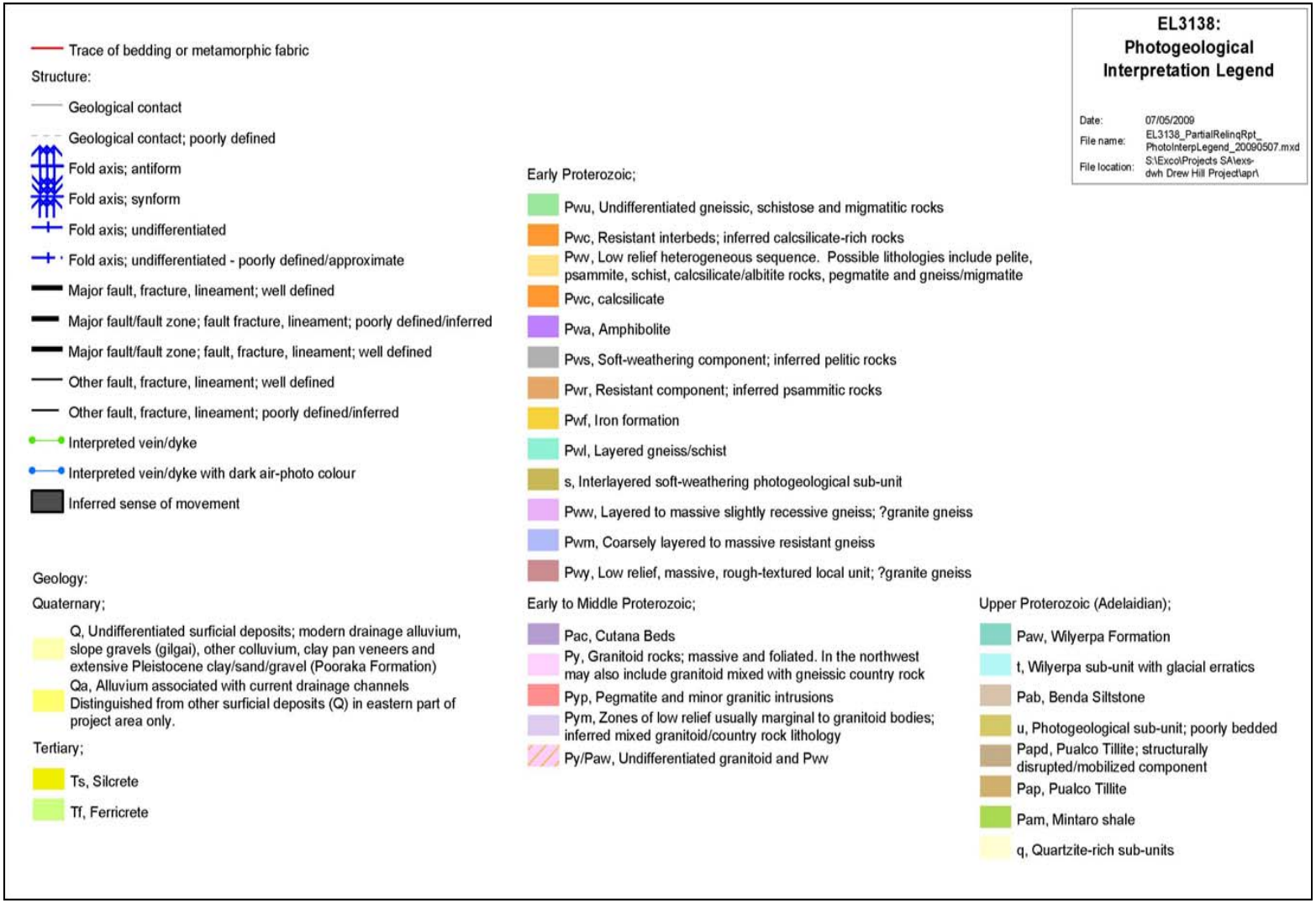


***FIGURE 5 – PHOTOGEOLOGICAL INTERPRETATION - SNODIN***

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Photogeological
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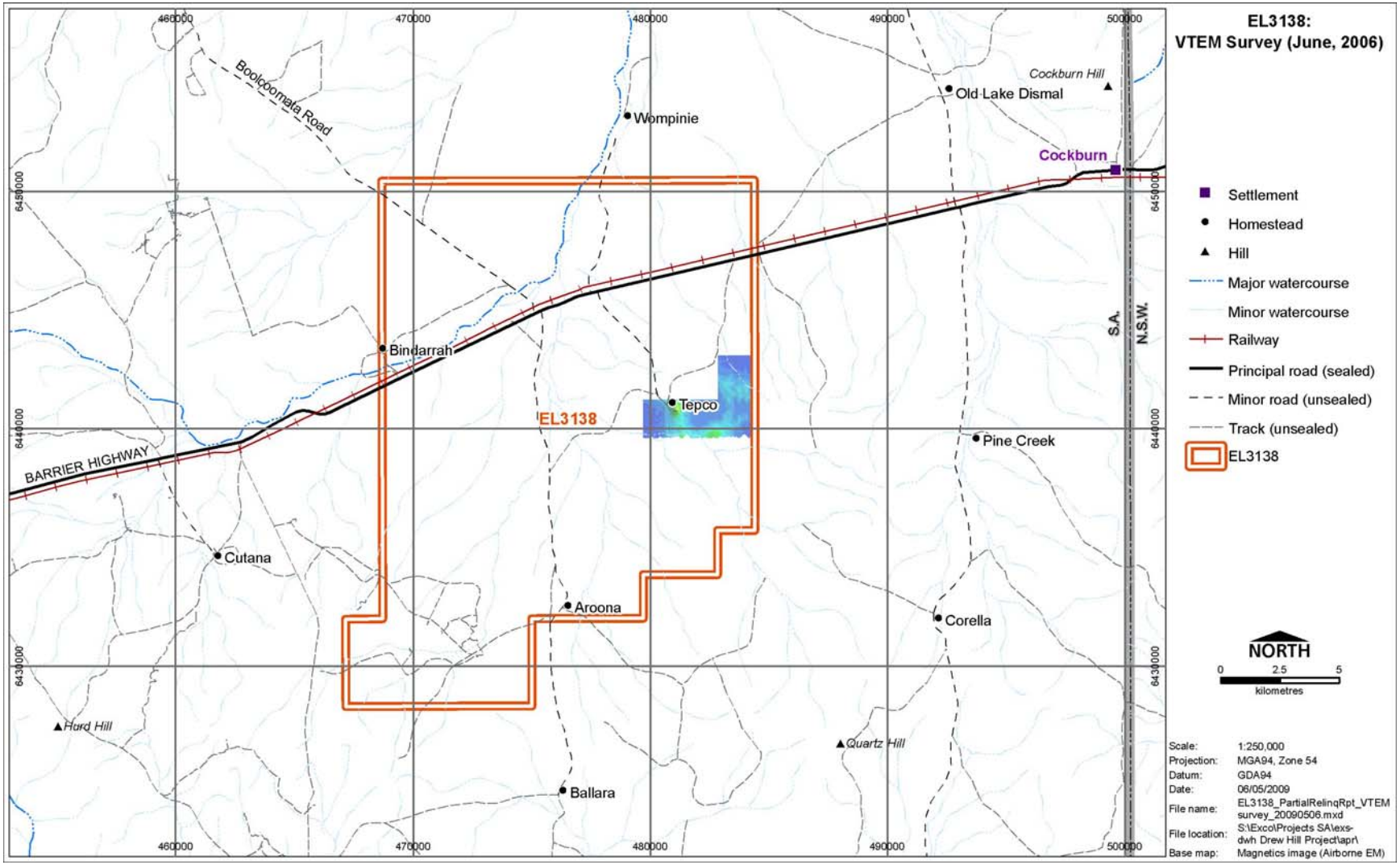
File location: S:\Exco\Projects SA\exs-dwh Drew Hill Project\apr\
Trace of bedding or metamorphic fabric
Structure:
Geological contact
Geological contact; poorly defined
Fold axis; antiform
Fold axis; synform
Fold axis; undifferentiated
Fold axis; undifferentiated - poorly defined/approximate
Major fault, fracture, lineament; well defined
Major fault/fault zone; fault fracture, lineament; poorly defined/inferred
Major fault/fault zone; fault, fracture, lineament; well defined
Other fault, fracture, lineament; well defined
Other fault, fracture, lineament; poorly defined/inferred
Interpreted vein/dyke
Interpreted vein/dyke with dark air-photo colour
Inferred sense of movement
Geology:
Quaternary;
Q, Undifferentiated surficial deposits; modern drainage alluvium, slope gravels (gilgai), other colluvium, clay pan veneers and extensive Pleistocene clay/sand/gravel (Pooraka Formation)
Qa, Alluvium associated with current drainage channels Distinguished from other surficial deposits (Q) in eastern part of project area only.
Tertiary;
Ts, Silcrete
Tf, Ferricrete
Early Proterozoic;
Pwu, Undifferentiated gneissic, schistose and migmatitic rocks
Pwc, Resistant interbeds; inferred calcsilicate-rich rocks
Pwv, Low relief heterogeneous sequence. Possible lithologies include pelite, psammite, schist, calcsilicate/albitite rocks, pegmatite and gneiss/migmatite
Pwc, calcsilicate
Pwa, Amphibolite
Pws, Soft-weathering component; inferred pelitic rocks
Pwr, Resistant component; inferred psammitic rocks
Pwf, Iron formation
Pwl, Layered gneiss/schist
s, Interlayered soft-weathering photogeological sub-unit
Pww, Layered to massive slightly recessive gneiss; ?granite gneiss
Pwm, Coarsely layered to massive resistant gneiss
Pwy, Low relief, massive, rough-textured local unit; ?granite gneiss
Early to Middle Proterozoic;
Pac, Cutana Beds
Py, Granitoid rocks; massive and foliated. In the northwest may also include granitoid mixed with gneissic country rock
Pyp, Pegmatite and minor granitic intrusions
Pym, Zones of low relief usually marginal to granitoid bodies; inferred mixed granitoid/country rock lithology
Py/Paw, Undifferentiated granitoid and Pwv
Upper Proterozoic (Adelaidian);
Paw, Wilyerpa Formation
t, Wilyerpa sub-unit with glacial erratics
Pab, Benda Siltstone
u, Photogeological sub-unit; poorly bedded
Papd, Pualco Tillite; structurally disrupted/mobilized component
Pap, Pualco Tillite
Pam, Mintaro shale
q, Quartzite-rich sub-units

***FIGURE 6 – VTEM SURVEY***



## 5 REFERENCES


- Forbes, B.G., 1991. Explanatory Notes: Geology of Olary, 1:250,000 Map Sheet. Geological Survey of South Australia

- Hatton O.J., 2006. PACE Drilling Report – Drew Hill JV, Noranda Pacific Pty Ltd. March 2006.

RESOURCES (SA) PTY LTD

# DREW HILL PROJECT
# SOUTH AUSTRALIA

## PARTIAL SURRENDER REPORT
## EXPLORATION LICENCE 3257

13 MAY 2009


Tenement Holder: Exco Resources (SA) Pty Ltd
Prepared by: Andrew McDonald


## DISTRIBUTION

Department of Primary Industries and Resources – South Australia
Exco Resources Ltd

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**FIGURES**

## 1. SUMMARY OF ACTIVITIES

Exco Resources Ltd ***(Exco)*** entered into an agreement in June 2003 with Polymetals Group Pty Ltd ***(Polymetals)*** over tenements located at Drew Hill including Exploration Licences 2630 “Bulloo South” (EL 2630). Exco acquired a 100% interest in the Drew Hill tenements in January 2006.

Exploration Licence 2630 had its five year anniversary and expired on 5 August 2004. PMS and Exco successfully applied for a subsequent EL (EL 3257), which included a 25% reduction in area.

In March 2005, Noranda Pacific Pty Ltd (“Noranda”) entered into an option with Exco whereby Noranda could acquire a 70% interest on new discoveries on the tenement. Noranda withdrew from the option in October 2006.

In August 2004, Geoimage of Brisbane was commissioned by Noranda to acquire process and interpret Aster satellite imagery over the Drew Hill tenements, including the surrendered blocks.

An airphoto interpretation was commissioned by Noranda in March 2005 to provide a detailed base map to be used in combination with government geophysics and geological mapping.

Exco notified the Department of its intention to relinquish approximately 25% of EL3257 in July 2008.

## 2. INTRODUCTION

### *2.1. GENERAL*

The following report details work done over the area of EL 3257 that is being relinquished for the period June 2003 to July 2008.

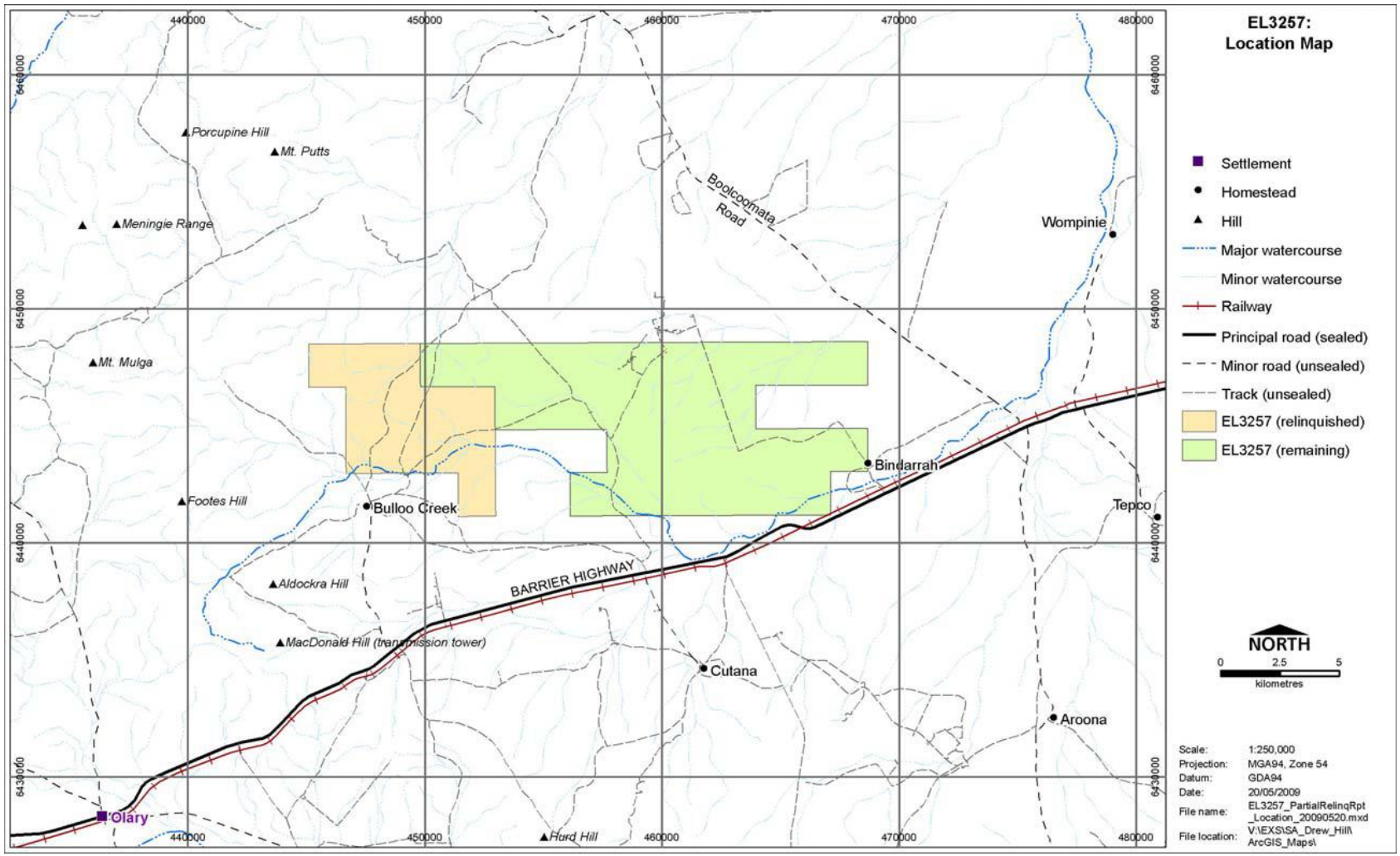
### *2.2. LOCATION AND ACCESS*

EL 3257 is located approximately 25 km northeast of the Olary township, in the north of the Olary (SI 54-2) 1:250,000 GSSA map sheet.

Access from Olary is via the Barrier Highway then station tracks. The boundary of the tenement lies between the longitudes 140$^{o}$ 25’E and 140$^{o}$ 40’E and the latitudes 32$^{o}$06’S and 32$^{o}$10’S.

The portion of EL3257 being relinquished lies between 140$^{o}$ 25’E and 140$^{o}$ 30’E and the latitudes 32$^{o}$06’S and 32$^{o}$10’S.

***FIGURE 1 – LOCATION MAP FOR EL 3257***



## 3. GEOLOGY

The Drew Hill Project is located in the South Australian segment of Curnamona Craton. The Curnamona Craton was originally a rifted sedimentary basin filled with Lower Proterozoic Willyama Supergroup shallow-marine sediments, evaporates and mafic volcanics. These have been deformed and metamorphosed into a belt of high-grade gneisses and schists, and then intruded by Middle Proterozoic granites. The craton spars the NSW-SA border between Olary in SA and Broken Hill in NSW. It is divided into two major structural and stratigraphic segments: the Broken Hill Block to the east and the Olary Block to the west. These two blocks are separated by the NNE trending Mundi Mundi Fault.

Both segments of the craton are extensively mineralized. The most important deposit is the Broken Hill Pb-Zn-Ag deposit, however, there are numerous other sedimentary deposits including exhalative Pb-Zn-Ag, volcano-exhalative Cu-Au, epigenetic Cu-Au-Mo, epigenetic U and diagenetic U deposits. The epigenetic Cu-Au-Mo mineralization has been mined at several locations within the Olary Block. It is associated with intense albite alteration and is usually accompanied by haematite and magnetite. It is thought to have been deposited either by fluids derived from the metamorphism of the underlying evaporate sequence or by magmatic fluids from the later granite intrusions. It is broadly stratabound and disseminated, but locally controlled by veins and fractures.

The Drew Hill Project is within the Olary Block. The tenements comprise deformed albitised pelitic schists, calc-silicate schists and gneisses of the upper Early Proterozoic Willyama Super Group. The majority of the relinquished area is under a thin layer of cover with schists, gneisses and migmatites from the Willyama Supergroup outcropping towards the north (Figure 2).

Airborne magnetic data shows a number of magnetic linear features, some of which are probably related to increased magnetite in the more albitic units (Figure 3). Magnetic lows are associated with units of the Pelite Suite or granitic intrusives. Detailed geology is given in the Olary 1:250 000 geological notes (Forbes, 1991).

***FIGURE 2 – REGIONAL GEOLOGY***

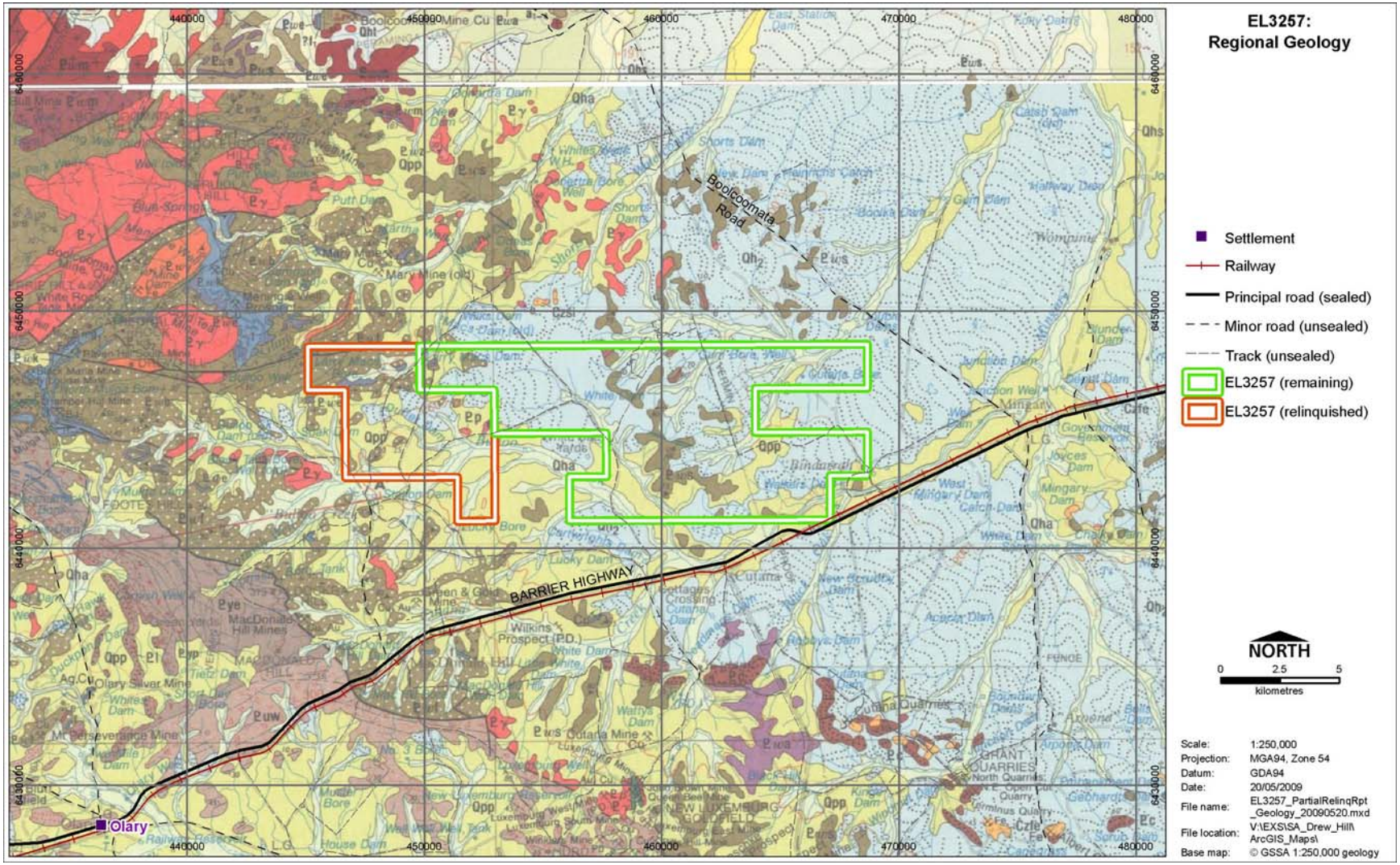
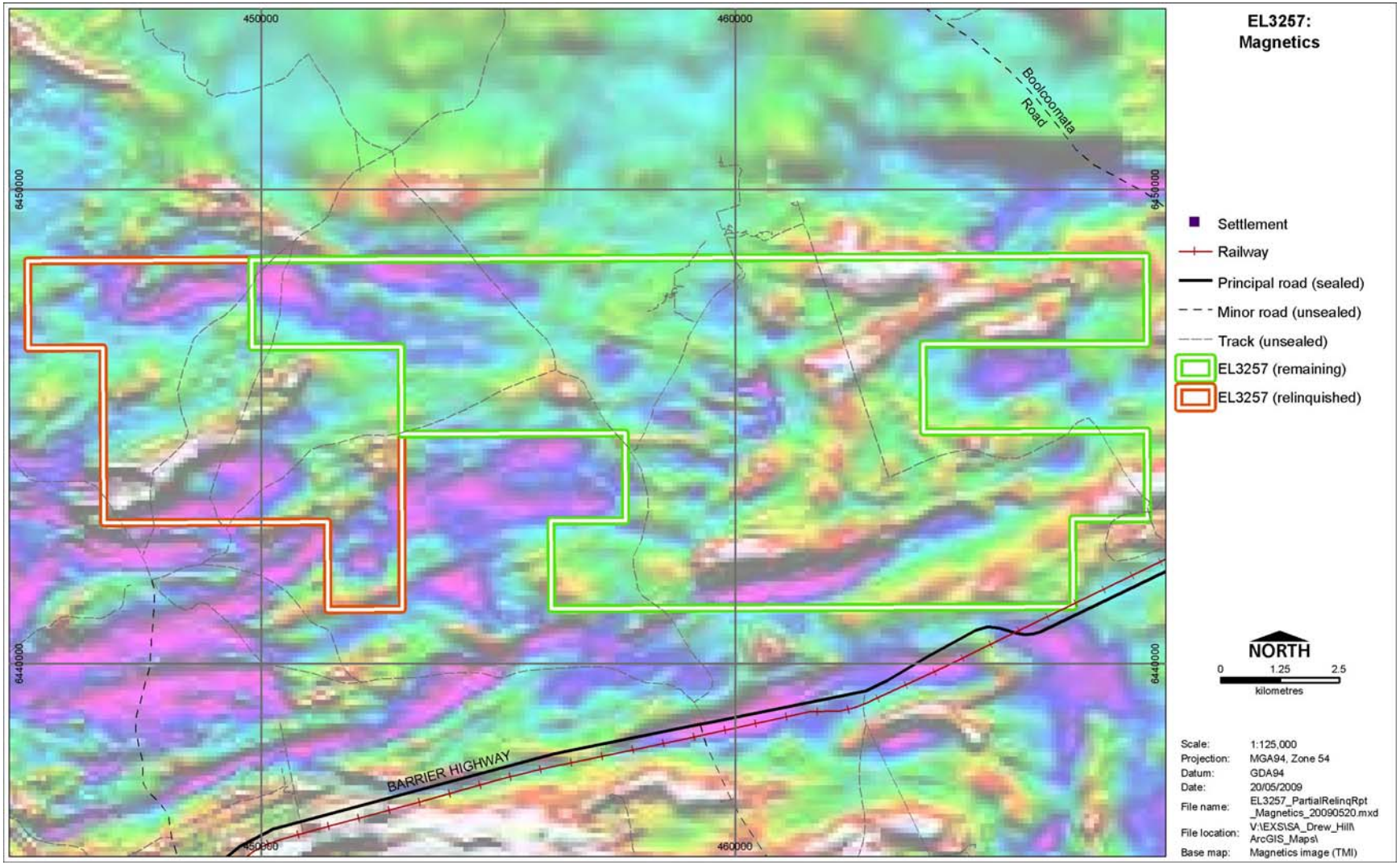


***FIGURE 3 – REGIONAL MAGNETICS***



## 4. EXPLORATION ACTIVITIES

### *4.1. ASTER IMAGERY (2004)*

Geolmage of Brisbane were commissioned in November 2004 to acquire, process and interpret Aster satellite imagery over the Drew Hill tenements as a precursor to detailed airphoto interpretation, ground truthing and later geophysics and drilling. Geolmage provided Noranda with filtered and processed images including SWIR, VNIR and Landsat TM247 lookalikes (Figure 4). These were used in the desktop review of targets and early anomaly prioritization and were also provided as detailed base maps for the airphoto interpretation. The full result of this work has been submitted as an Appendix to the report submitted in requirements of PACE Drilling Proposal DPY2-34 (Hatton 2006).

### *4.2. AIRPHOTO INTERPRETATION (2005)*

Dr Stephen Snodin (Snodin Photogeological Services, ACT) was commissioned by Noranda in March 2005 to carry out a detailed airphoto geological interpretation of the greater Drew Hill JV (Figure 5). This interpretation provided a geological interpretation based upon stereoscopic airphotos, georeferenced ASTER imagery and open-file information at 1:50,000. The plans for this work have been submitted in a previous report submitted in requirements of PACE Drilling Proposal DPY2-34 (Hatton 2006).

***FIGURE 4 - EL 3257 ASTER IMAGERY***

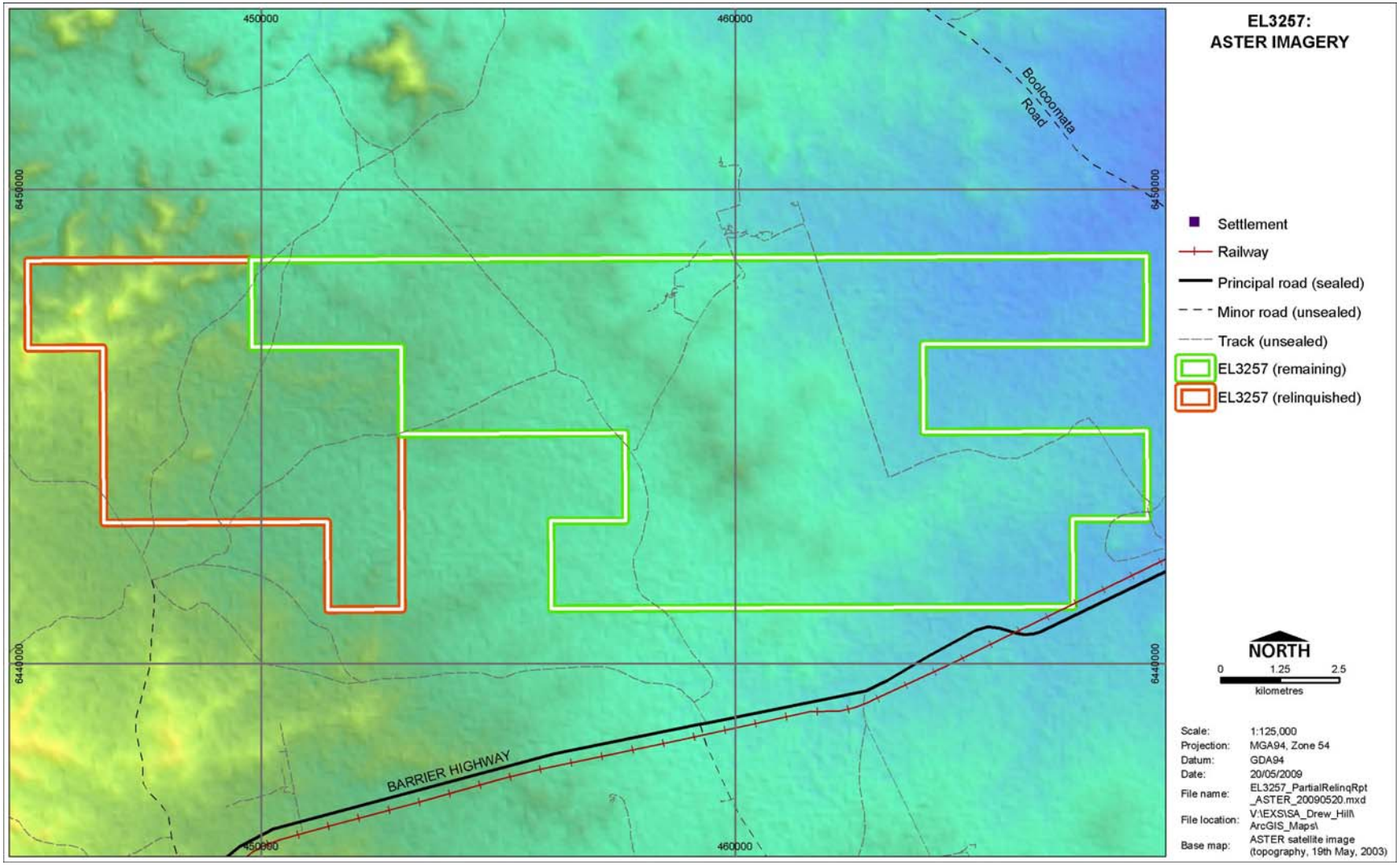
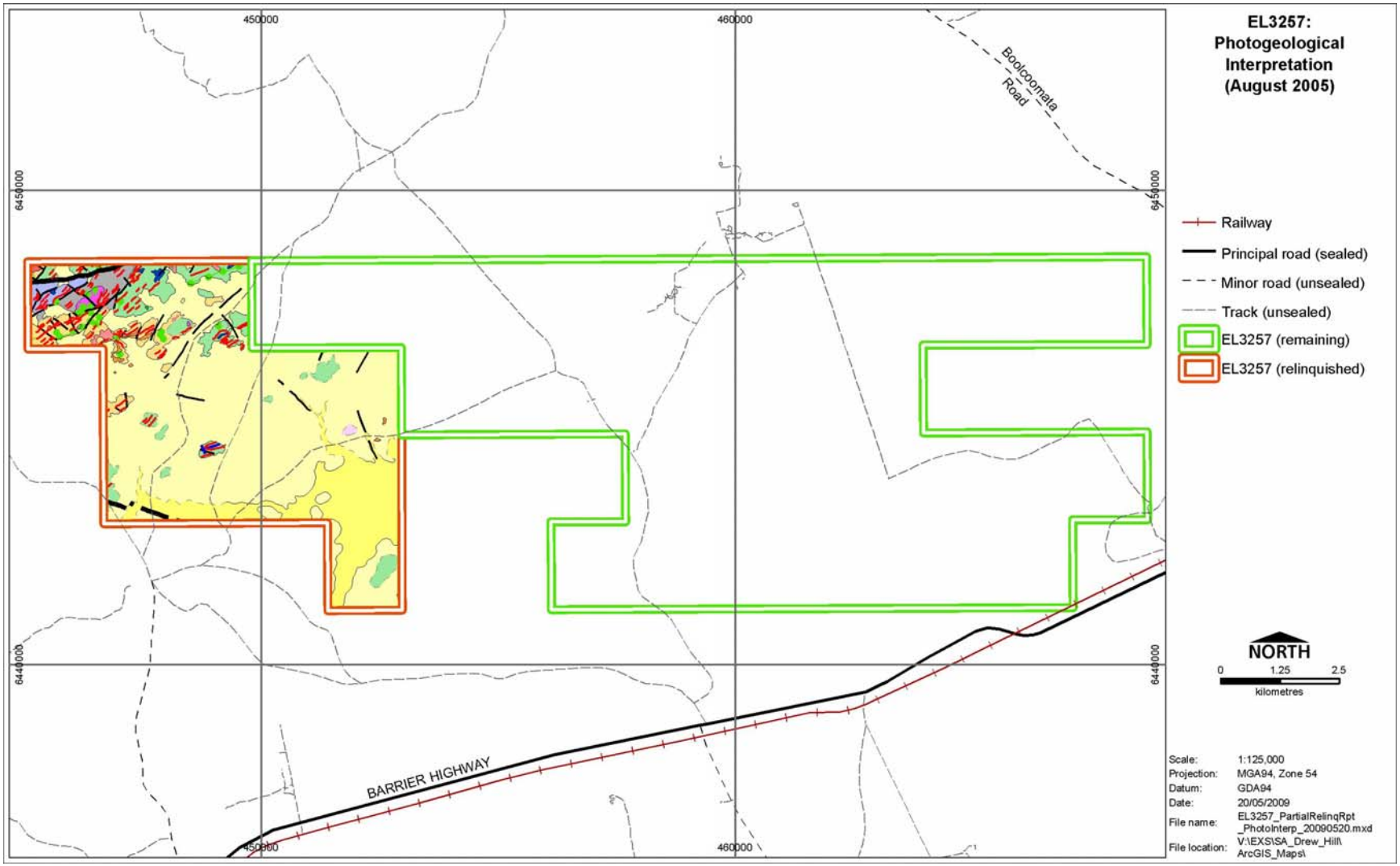
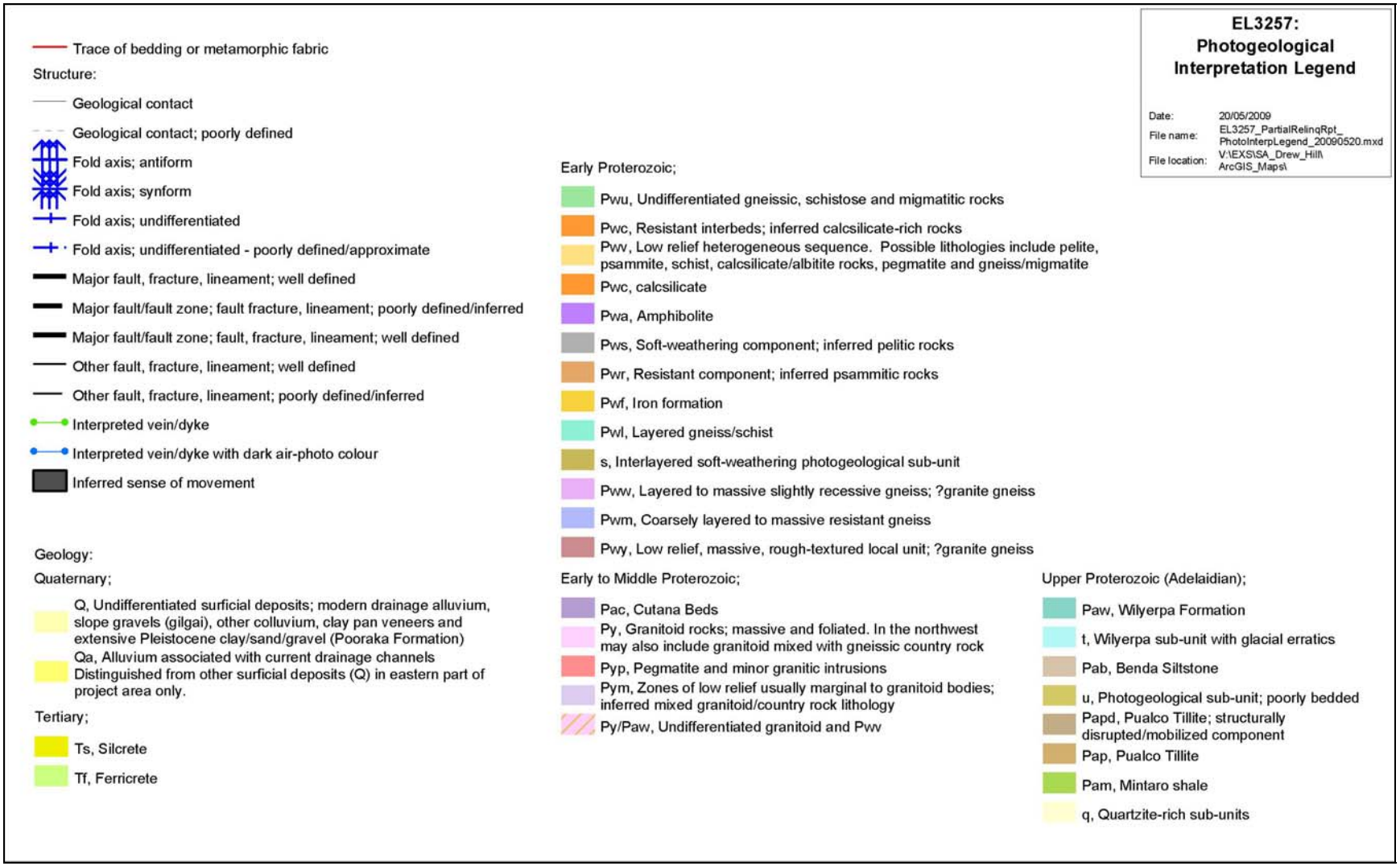


***FIGURE 5 – PHOTOGEOLOGICAL INTERPRETATION - SNODIN***




EL3257:
Photogeological
Interpretation Legend
Date: 20/05/2009
File name: EL3257_PartialRelinqRpt_PhotoInterpLegend_20090520.mxd
File location: V:\EXS\SA_Drew_Hill\ArcGIS_Maps\
Trace of bedding or metamorphic fabric
Structure:
Geological contact
Geological contact; poorly defined
Fold axis; antiform
Fold axis; synform
Fold axis; undifferentiated
Fold axis; undifferentiated - poorly defined/approximate
Major fault, fracture, lineament; well defined
Major fault/fault zone; fault fracture, lineament; poorly defined/inferred
Major fault/fault zone; fault, fracture, lineament; well defined
Other fault, fracture, lineament; well defined
Other fault, fracture, lineament; poorly defined/inferred
Interpreted vein/dyke
Interpreted vein/dyke with dark air-photo colour
Inferred sense of movement
Geology:
Quaternary;
Q, Undifferentiated surficial deposits; modern drainage alluvium, slope gravels (gilgai), other colluvium, clay pan veneers and extensive Pleistocene clay/sand/gravel (Pooraka Formation)
Qa, Alluvium associated with current drainage channels Distinguished from other surficial deposits (Q) in eastern part of project area only.
Tertiary;
Ts, Silcrete
Tf, Ferricrete
Early Proterozoic;
Pwu, Undifferentiated gneissic, schistose and migmatitic rocks
Pwc, Resistant interbeds; inferred calcsilicate-rich rocks
Pwv, Low relief heterogeneous sequence. Possible lithologies include pelite, psammite, schist, calcsilicate/albitite rocks, pegmatite and gneiss/migmatite
Pwc, calcsilicate
Pwa, Amphibolite
Pws, Soft-weathering component; inferred pelitic rocks
Pwr, Resistant component; inferred psammitic rocks
Pwf, Iron formation
Pwl, Layered gneiss/schist
s, Interlayered soft-weathering photogeological sub-unit
Pww, Layered to massive slightly recessive gneiss; ?granite gneiss
Pwm, Coarsely layered to massive resistant gneiss
Pwy, Low relief, massive, rough-textured local unit; ?granite gneiss
Early to Middle Proterozoic;
Pac, Cutana Beds
Py, Granitoid rocks; massive and foliated. In the northwest may also include granitoid mixed with gneissic country rock
Pyp, Pegmatite and minor granitic intrusions
Pym, Zones of low relief usually marginal to granitoid bodies; inferred mixed granitoid/country rock lithology
Py/Paw, Undifferentiated granitoid and Pwv
Upper Proterozoic (Adelaidian);
Paw, Wilyerpa Formation
t, Wilyerpa sub-unit with glacial erratics
Pab, Benda Siltstone
u, Photogeological sub-unit; poorly bedded
Papd, Pualco Tillite; structurally disrupted/mobilized component
Pap, Pualco Tillite
Pam, Mintaro shale
q, Quartzite-rich sub-units

## 5 REFERENCES


- Forbes, B.G., 1991. Explanatory Notes: Geology of Olary, 1:250,000 Map Sheet. Geological Survey of South Australia

- Hatton O.J., 2006. PACE Drilling Report – Drew Hill JV, Noranda Pacific Pty Ltd. March 2006.