Lode Resources Ltd

ACN 637 512 415

SUPPLEMENTARY PROSPECTUS

1. IMPORTANT NOTICE

This supplementary prospectus (**Supplementary Prospectus**) contains particulars of changes to, and supplements, the prospectus dated 13 April 2021 (**Prospectus**) issued by Lode Resources Ltd ACN 637 512 415 (**Lode** or **Company**) in respect of the offer of between 25,000,000 and 37,500,000 fully paid ordinary shares of the Company (**Shares**) at $0.20 per Share to raise between $5,000,000 and $7,500,000.

The Supplementary Prospectus is dated 6 May 2021 and was lodged with the Australian Securities and Investments Commission (**ASIC**) on that date. Neither ASIC nor the Australian Securities Exchange (**ASX**) take any responsibility as to the contents of the Supplementary Prospectus.

The Supplementary Prospectus must be read together with the Prospectus. To the extent of any inconsistency between the Supplementary Prospectus and the Prospectus, the provisions of the Supplementary Prospectus will prevail. Unless otherwise indicated, terms defined and used in the Prospectus have the same meaning in the Supplementary Prospectus.

The Company has issued both a printed and electronic version of the Supplementary Prospectus and the Prospectus. Electronic versions of both may be accessed at www.loderesources.com.

The Supplementary Prospectus and the Prospectus are important documents that should be read together, in their entirety. If you have any questions about the Shares being offered under the Prospectus or any other matter, you should consult your professional advisors.

2. NO INVESTOR ACTION REQUIRED

As the content of this Supplementary Prospectus is not considered by the Company to be materially adverse to investors, no action needs to be taken by investors who have already applied for Shares under the Prospectus to the date of this Supplementary Prospectus.

3. AMENDMENT TO THE PROSPECTUS

3.1 Referenced to "deposit" or "deposits"

The following references to "deposit" and "deposits" in the Prospectus are replaced with "occurrence" or "occurrences" respectively:

(a) **Page 9** - "Fender Copper: This project has four known copper deposits of which the Trough Gully";

(b) **Page 35** - "3 Fender Copper – VMS style copper deposit – drill ready";

(c) **Page 37** - "Lode's exploration licences contain mineral deposits exhibiting several styles of mineralisation";

(d) **Page 37** - "alluvial gold deposits";

(e) **Page 40** - "Project (EL8933) contains several small, but high grade, silver-lead-zinc-gold deposits hosted by.....";

(f) **Page 43** - "Uralla contains several known hydrothermal gold deposits that are associated with regional structures.....";

(g) **Page 46**: "This deposit occurs where a major north-south structure bisects local.....; and

(h) **Page 54**: "two north-west trending, parallel lines of deposits 1.5km apart. Gold is associated with pyrite".

3.2 Amendment to the Independent Geologist's Report

The Independent Geologist's Report contained in section 6 of the Prospectus has been amended to:

(a) replace references of "deposits" to "occurences" when describing the form of mineralisation contained in the Company's tenements;

(b) provide further information on drilling assay results;

(c) explain the risks associated with the Company's projects;

(d) provide further comments on the sampling techniques and data; and

(e) provide further information on the Company's tenement and land tenure status and explorations done by other parties.

The revised Independent Geologist's Report is included at Annexure A of this Supplementary Prospectus.

3.3 Amendments to the Solicitor's Report on Tenements

The Solicitor's Report on Tenements contained in section 7 of the Prospectus has been amended to provide additional information on native title and land access.

The revised Solicitor's Report on Tenements is included at Annexure B of this Supplementary Prospectus.

4. EXTENSION OF OFFER PERIOD

The board of the Company wishes to advise that the Closing Date of the Offer has been extended until 5:00pm (Sydney time) on 17 May 2021, and accordingly, the "Key Offer Dates" as set out on page 6 of the Prospectus has been updated as follows:

Important dates

Lodgement of Prospectus with ASIC	13 April 2021
Opening Date of the Offer	28 April 2021
Closing Date of the Offer	17 May 2021
Settlement date of the Offer	20 May 2021
Allotment and issue of Shares under the Offer	24 May 2021
Expected date of dispatch of holding statements	27 May 2021
Expected commencement of trading on ASX	1 June 2021

The above dates are subject to change and are indicative only. The Company (in consultation with the Lead Manager) reserves the right to vary the dates and times of the Offer, including to close the Offer early, extend the Offer or accept late Applications, without notifying any recipient of the Prospectus or any Applicants. Applicants are encouraged to submit their Applications as early as possible. If the Offer are cancelled before the issue of new Shares, then all Application Money will be refunded in full (without interest) as soon as practicable in accordance with the requirements of the Corporations Act. Investors are encouraged to submit their Applications as soon as possible after the Offer opens.

5. CONSENTS

Geos Mining has given, and has not withdrawn prior to the lodgement of this Supplementary Prospectus with ASIC, its written consent to be named in this Supplementary Prospectus and to the inclusion of the revised Independent Geologist's Report in Annexure A of this Supplementary Prospectus.

Resources Legal has given, and has not withdrawn prior to the lodgement of this Supplementary Prospectus with ASIC, its written consent to be named in this Supplementary Prospectus and to the inclusion of the revised Solicitor's Report on Tenements in Annexure B of this Supplementary Prospectus.

6. DIRECTORS' AUTHORISATIONS

The Supplementary Prospectus is issued by the Company and its issue has been authorised by a resolution of its Directors.

The Directors believe that the Prospectus when read together with this Supplementary Prospectus contains all the information that would be required by sections 710 and 711 of the Corporations Act and does not contain any material statement that is misleading or deceptive.

In accordance with section 720 of the Corporations Act, each Director has consented to the lodgement of this Supplementary Prospectus with ASIC and has not withdrawn that consent prior to lodgement.

Dated: 6 May 2021

Signed for and on behalf of Lode Resources Ltd



Andrew Van Heyst
Executive Chair
Lode Resources Ltd

Annexure A – Revised Independent Geologist's Report

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Independent Geologist's Report

New England Projects
Lode Resources Limited

Geos Job No. **2849-01**

Report Date **16 March 2021**

Prepared for:

The Directors

Lode Resources Limited

Prepared by:

Murray Hutton
BA (Hons) Geology, MAIG
Principal Consultant

Jeff Randell
BSc (Hons), MAIG
Senior Consultant

Signature:





Executive Summary

Lode Resources Ltd ('Lode') commissioned Geos Mining to prepare an Independent Geologist's Report (IGR) for inclusion in the Prospectus for Lode's fundraising and ASX listing.

Lode controls seven Exploration Licences located in the New England Region of northern New South Wales (Figure 1, Table 1). The tenements cover a total area of 328 graticular units (969.3km^2).

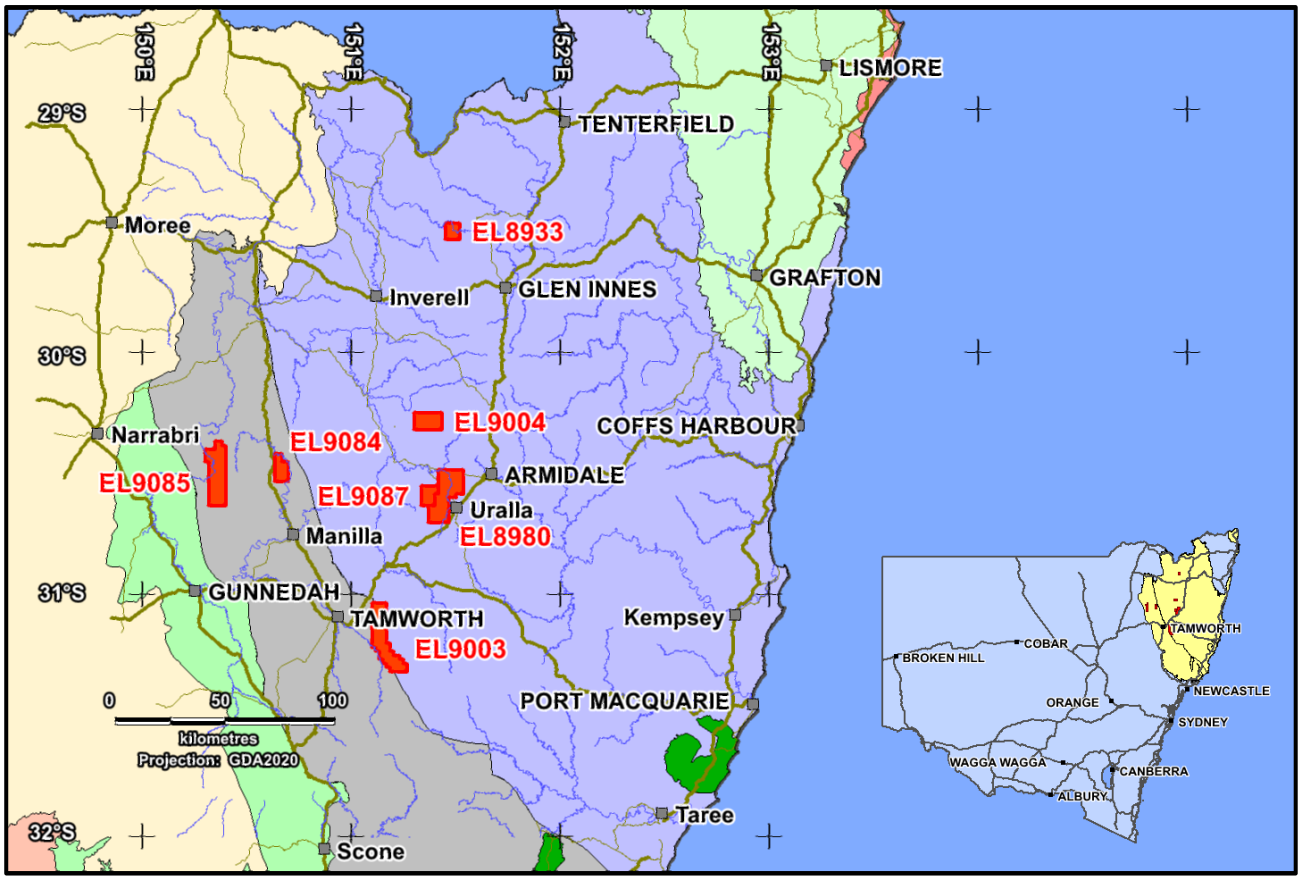

Figure 1: Lode Resources tenements locations

Refer to Figure 2 for provinces in the New England Orogen

Tenement	Name	Status	Grant Date	Expiry Date	Area (sb)	Area (km^2)
EL8933	Webbs Consol	Granted	16/01/2020	16/01/2023	16	47.8
EL8980	Uralla	Granted	14/05/2020	14/05/2023	80	236.5
EL9003	Fender	Granted	12/10/2020	12/10/2023	76	223.3
EL9004	Elsinore	Granted	12/10/2020	12/10/2023	32	94.9
EL9084	Tea Tree	Granted	11/03/2021	11/03/2024	24	71.0
EL9085	Thor	Granted	11/03/2021	11/03/2024	78	230.8
EL9087	Uralla West	Granted	12/03/2021	11/03/2024	22	65.0

Table 1: Lode Resources Tenements

Regional Geological Setting

The Lode tenements are located within the southern part of the New England Orogen ('NEO') in northeastern NSW (Figure 2), an accretionary regime formed along the eastern edge of Gondwana from the Devonian to Triassic periods (Li, et al., 2012). The NEO can be described as a complex orogen with ocean island arc, continental margin arc and accretionary sedimentary and volcanic components. The protracted tectonic history including periods of crustal thickening, melting of the juvenile volcanic derived basement to produce the voluminous New England Batholiths and rapid uplift that resulted in incision and exhumation of NEO stratigraphy and intrusive bodies.

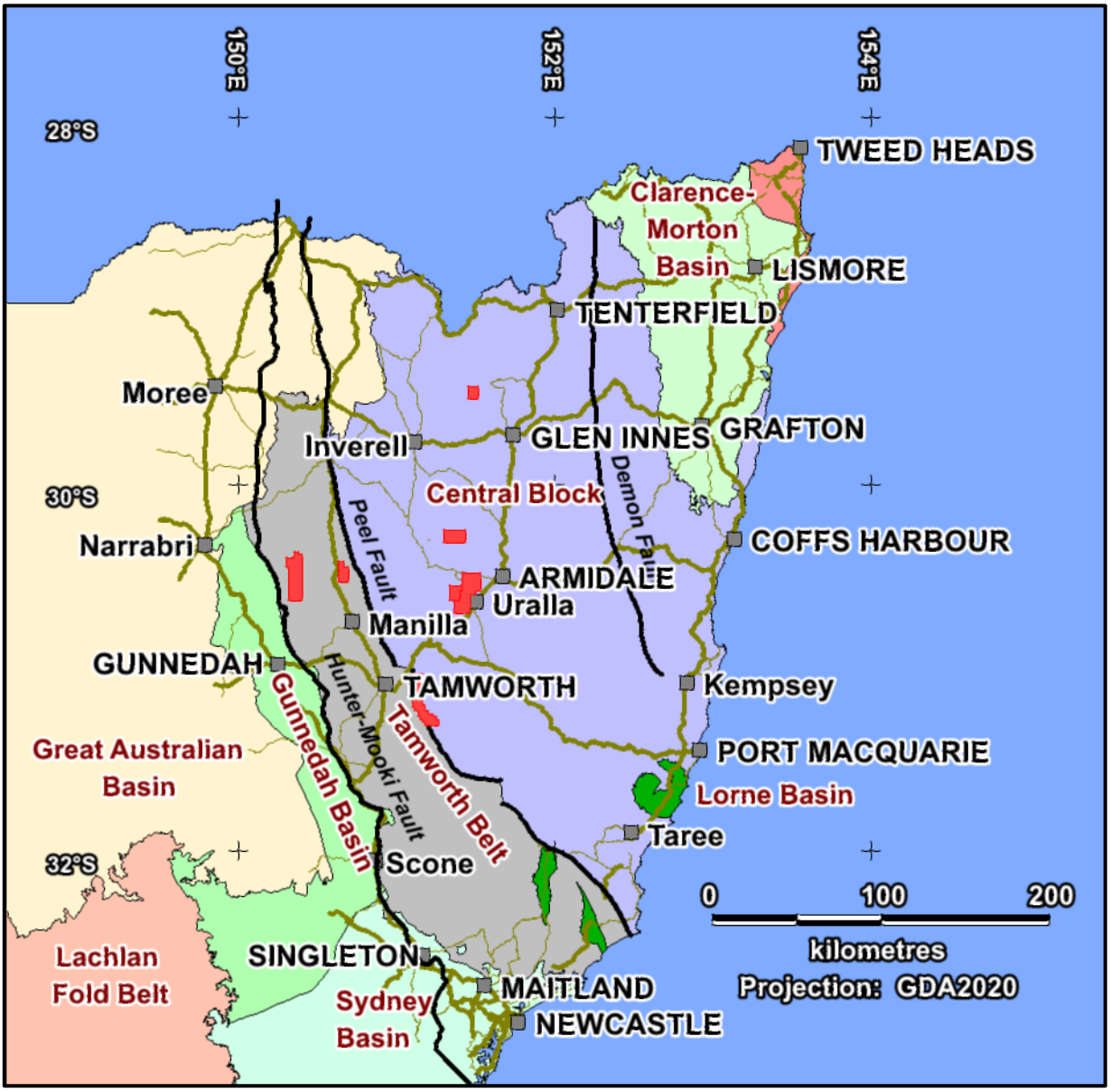

Figure 2: Lode ELs, Regional Geological Setting

The southern part of the NEO consists of the Tamworth Belt to the west and the Central Block to the east, separated by the Peel-Manning Fault Zone. The Tamworth Belt is bounded by crustal-scale Hunter-Mooki

and Peel-Manning Fault systems, which together form a belt of deformed Devonian-Carboniferous sediments that were deposited between a volcanic arc in the west and a deep-water accretionary wedge in the east. These depositional elements, which may have been separated from the Australian continent during the Devonian-Middle Carboniferous, were deformed during the Permian and Triassic by up to four folding events separated by episodes of granitoid emplacement.

Mineralisation Styles

The Lode tenements contain mineral occurrences exhibiting several styles of mineralisation:

- intrusion-related gold
- hydrothermal silver-lead-zinc veins
- submarine volcanic exhalative sulphides
- orogenic gold-antimony mineral systems
- alluvial gold deposits.

Within the Lode tenements, 35 metallic mineral occurrences have been identified in the GSNSW Mineral Occurrences database (excluding very small deposits classified as 'occurrence only').

Exploration Rationale

The New England Orogen holds considerable potential for economic mineralisation, despite the fact that only one small gold mine is currently operating in the region.

Exploration companies and the NSW Government have compiled a lot of information on a regional scale, but follow-up of anomalous responses have been largely lacking in direction, especially in recent years. As a result, the region can be regarded as underexplored and a thorough review of the mineral exploration potential is warranted.

Webbs Consols Project - EL8933

EL8933 – Webbs Consols contains several small, but high grade, silver-lead-zinc-gold occurrences. Historical mining operations and exploration have defined viable drilling targets:

- down plunge of the mineralisation at the Webbs Consols Mine,
- IP anomalies north of Lucky Lucy prospect,
- Extensions to mineralisation intersected in drillholes at Tangoa prospect
- Inferred fault intersections at Tangoa West prospect

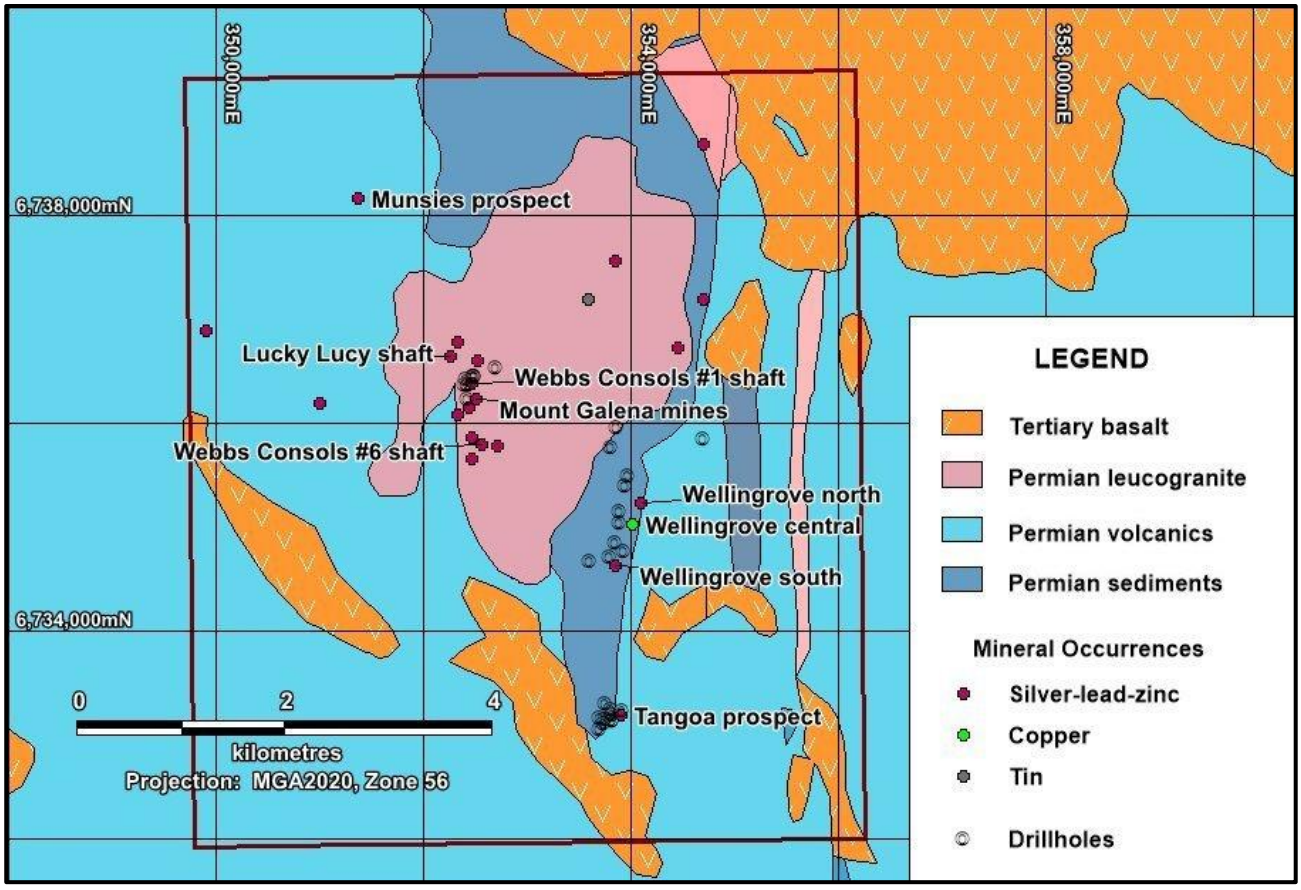

Figure 3: EL8933 Webbs Consols – geology & mine workings

Geological mapping, soil sampling and IP surveys are also recommended to test extensions along major structures.

URALLA PROJECT - EL8980 & EL9087

EL8980 – Uralla and EL9087 – Uralla West contain several hydrothermal gold occurrences that are associated with regional structures and margins of intrusions. Historical exploration has developed a Reduced Intrusion-Related Gold Systems model, which includes many large gold deposits elsewhere in the world. Drilling has mostly targeted extensions to historical workings and not the conceptual targets or zones of anomalous geochemistry / geophysics.

Rock chip sampling and IP surveys conducted by Lode have identified prospective areas as extensions to historical workings.

EL9087 - Uralla West adjoins on the western boundary of EL8980 and mineralisation styles consist of hydrothermal gold in quartz vein occurrences localised by structures intersecting intrusive margins. Shallow drilling of the Bannaweera prospect intersected significant alteration and gold mineralisation and further work is warranted to test for extensions of the mineralised zone.

Exploration programs should target the major structures, especially where they intersect intrusive margins. A combination of soil / RAB sampling and interpretation of the recent IP geophysics should be used to define drilling targets.

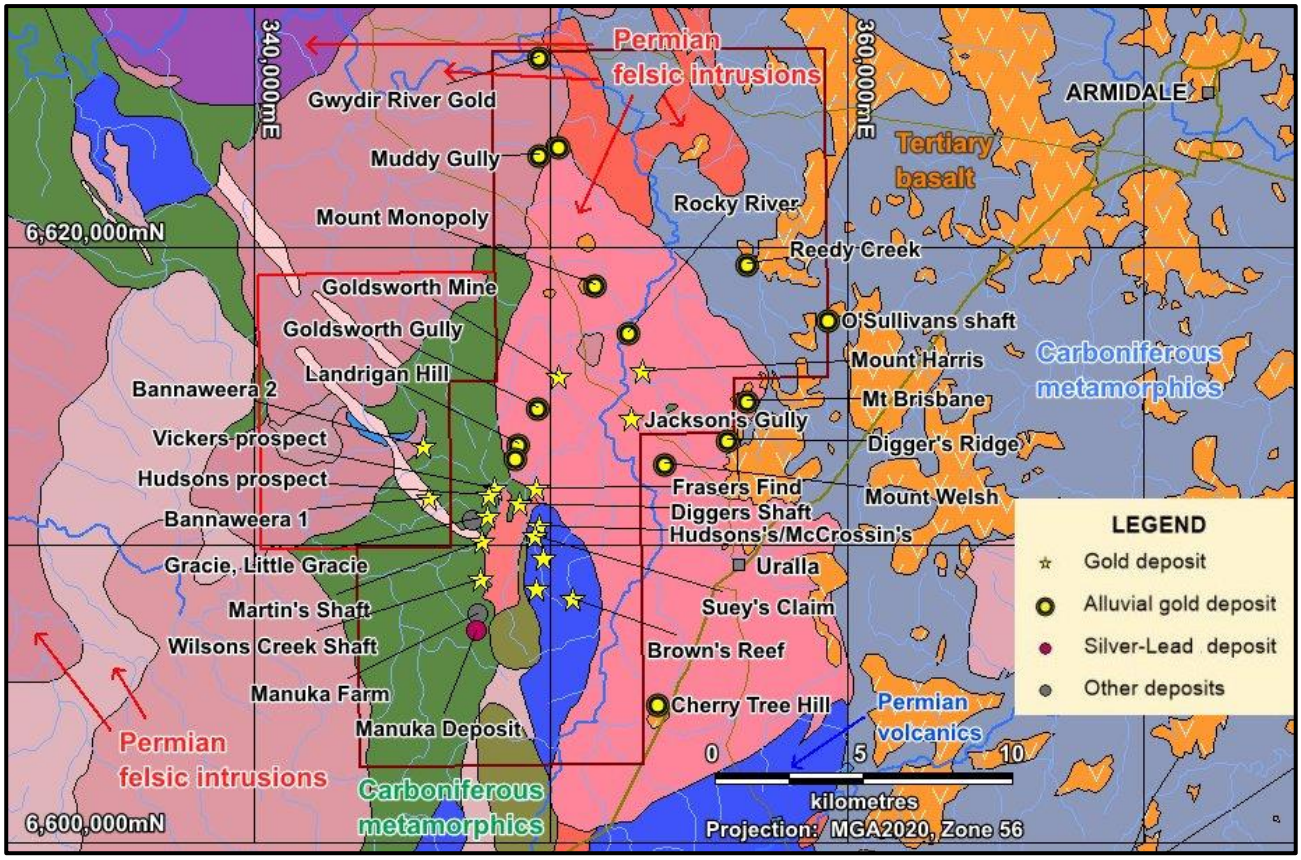

Figure 4: Uralla Project Geology & mineral occurrences

Other Projects

Fender Project (EL9003)

Within the Fender Project there has been considerable geochemical sampling carried out, but only minor geophysical surveys have been completed. Drilling has been limited to only one prospect.

Many historical workers have commented that the copper occurrences were their prime target, being classified as massive, stratiform cupriferous pyrite lenses. Malachite Resources noted that their main targets are "syngenetic exhalative gold mineralisation and epigenetic structurally-controlled gold mineralisation".

The Trough Gully and Fischer's workings have received particular attention as they are VHMS style occurrences favourably located within and to the east of the Peel-Manning Fault. The only drilling completed within the EL area was at the Fischer's Prospect, with 11 shallow percussion drillholes totalling 382m drilled during 1971.

Geos Mining notes that the topography is quite challenging in many parts of the tenement and this may have limited the practical ability to complete any drilling. However, we consider that further exploration should target the better of the prospects such as Fischer's, Trough Gully, Mulla Creek, Herdens/ Edwards/ Rasmussens and Stannings. Trough Gully is a drill-ready target, but the other occurrences would require further programs of mapping, geochemical sampling and IP geophysics to define drilling targets.

ELSINORE PROJECT (EL9004)

There has been little exploration completed within the immediate area of EL9004. The most significant exploration has been carried out at the Elsinore copper prospect. Extensive soil sampling program outlined a number of spotty Au, As, Cu, Pb and Zn anomalies and highlighted a dominant W-E trend between the two Elsinore prospects, with NW-SE extensions that broadly mimics the orientation and location of coincident felsic dykes. A detailed IP survey defined a chargeable response coincident with the central W-E soil geochemical trend. However, the prospect was not drilled.

In Geos Mining's opinion, the coincident soil / IP anomalies remain as the best target for drilling, although we recommend that, prior to drilling, check sampling and geological mapping is carried out to verify the mineralisation extent and attitude. Additional dipole-dipole IP surveying could be carried out prior to any drilling to determine the extent of the chargeable response and/or EM surveying if it is considered that the mineralisation is more likely to be massive rather than disseminated.

TEA TREE PROJECT (EL9084)

Within the area of EL9084, there are two north-west trending, parallel lines of occurrences 1.5km apart, together with 20 historical workings on vein, alluvial, and deep lead gold occurrences. Gold is associated with pyrite in friable subvertical narrow quartz reefs in shear zones associated with brecciation. High grades reported from the historical workings may be due to supergene enrichment at the base of 0xidation.

There has been very little exploration completed within the area covered by EL9084 despite the numerous historical workings. The only significant exploration program was that by Pinnacle Gold in 2013, who drilled two short Reverse Circulation drillholes to test down dip of the Shamrock workings. The paucity of drilling presents an opportunity for Lode to test below the Base of Complete Oxidation (BOCO) as this has not been evaluated by historical mining.

THOR PROJECT (EL9085)

The most obvious structural feature within EL9085 is the Rocky Creek Syncline and a smaller anticline located on the western edge of the syncline. Along the faulted axis of the syncline are fluvioglacial to glacial sediments. In places the fluvial system lies directly on the underlying shelf mudstones of the Namoi Formation. The western edge of the Rocky Creek Syncline is upfaulted, and a small faulted anticline occurs between the upfaulted block and syncline proper.

Pinnacle Gold reported anomalous gold-in-stream sediment samples from previous exploration and some anomalous results coincide with a small anticline located on the western edge of the Rocky Creek Syncline.

There are a few scattered indications of gold mineralisation from historic workings but there has been virtually no exploration completed, apart from known mineralisation prospecting.

The opportunity for Lode Resources lies in this unexplored nature of the tenement and it is recommended that initially a 'boots-on-ground' approach is taken to carefully prospect the areas outside of known mineral occurrences. Selective geochemical sampling is also recommended once the prospective stratigraphy is identified in areas of structural complexity.

Conclusions and Recommendations

Historical exploration within the NEO has mostly consisted of geological mapping, surface geochemistry, minor geophysics and shallow drilling around historical workings. Given the prospectivity of the NEO, the lack of defined mineral resources may, in part, be attributed to the paucity of deeper drilling.

The Lode Resources tenements hold potential for a range of mineralisation styles, from small-medium tonnage high grade mineralisation, mostly associated with major structures, to potentially large tonnage deposits associated with stockworks / breccia zones in intrusive bodies.

Lode has a planned exploration programs totalling $2.8M (for the Minimum Subscription of $5.0M) or $5.1M (for the Maximum Subscription of $7.5M), as summarised below. Geos Mining has reviewed the programs and considers them appropriate for the tenements at the current state of understanding.

Project	Scenario 1		Scenario 2	
	Year 1	Year 2	Year 1	Year 2
EL8933 - Webbs Consol	241,200	321,600	347,100	422,900
EL8980 – Uralla & EL9087 - Uralla West	332,800	322,400	459,200	423,800
EL9003 - Fender	229,400	321,600	334,900	422,800
EL9004 - Elsinore	26,500	28,400	46,500	328,900
EL9084 - Tea Tree	35,300	20,000	46,500	328,900
EL9085 - Thor	36,800	20,000	58,000	328,900
Miscellaneous	278,000	228,800	510,300	391,900
Contingency 15%	177,000	189,400	270,400	397,200
TOTAL EXPLORATION PROGRAM	**1,357,000**	**1,452,200**	**2,072,900**	**3,045,300**

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1. Introduction

1.1. Background

Lode Resources Limited (Lode) is an Australian private company that holds seven Exploration Licences (ELs) in the New England region of northern New South Wales (Figure 1). Lode plans to offer a minimum of 25,000,000 Shares at an issue price of $0.20 each to raise $5,000,000 (Minimum Subscription) and a maximum of 37,500,000 Shares at an issue price of $0.20 each to raise $7,500,000 (Maximum Subscription) and list on the Australian Securities Exchange (ASX). Geos Mining was commissioned to prepare an Independent Geologist's Report (IGR) for inclusion in the Prospectus.

EL8933 Webbs Consols holds potential to host significant mineral deposits of silver-lead-zinc formed as hydrothermal vein deposits within shear zones in granitoids and volcanic rocks.

EL8980 Uralla covers the Rocky River Goldfield and contains several gold occurrences mostly associated with major structures and felsic intrusions. EL9087 Uralla West adjoins EL8980 Uralla and contains mineralisation similar to that found in EL8980.

EL9003 Fender covers the Peel-Manning Fault and is prospective for copper dominant VHMS style deposits, in addition to vein/ stockwork hosted gold deposits, tungsten-molybdenum pipes/ veins/ disseminated deposits, porphyry copper-gold deposits and podiform chromite deposits.

EL9004 Elsinore includes an untested and drill-ready structurally controlled copper target within an area of felsic dyke swarms that have intruded meta-sediments and volcanics.

EL9084 Tea Tree covers a large number of structurally controlled gold occurrences that have received very little attention historically. Production records indicate very high gold grades with production ceasing below the base of complete oxidation.

EL9085 Thor includes a structurally disturbed sequence of sediments and pyroclastics / epiclastics between the Peel and Hunter-Mooki Faults. Very little exploration has been completed, apart from known mineralisation prospecting.

1.2. Purpose of Report

This report aims to provide a compilation of exploration results on the area covered by the Lode tenements. The compilation has been undertaken in accordance with the principles and guidelines of the JORC Code 2012[1] and the VALMIN Code 2015[2] and, as such, is suitable for inclusion in Lode's planned Prospectus to be lodged with the ASX.

[1] Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves
[2] Australasian Code for Public Reporting of Technical Assessments and Valuations of Mineral Assets.

This report does not provide a valuation of the mineral assets.

1.3. Sources of Information

Information used in the compilation of this report has been received from Lode and from publicly accessible sources, such as the NSW Department of Planning, Industry and Environment's DIGS database. Reports referred to in this Independent Geologist's Report are listed in the Section 'References'.

Geos Mining has validated the tenement information provided by Lode through the NSW Department of Planning, Industry and Environment's MinView database (https://minview.geoscience.nsw.gov.au/). However, this check does not constitute a full legal due diligence of the tenements and the reader is referred to the Solicitor's Report on Tenements included in the IPO Prospectus.

Unless otherwise stated, all coordinates in this report use the Geocentric Datum of Australia 2020 (GDA2020) and the Map Grid of Australia 2020 (MGA2020), which are now the official datum and map projection for Australia. Elevations are expressed in metres in accordance with the Australian Height Datum.

1.4. Competent Person Qualifications & Consents

This Report has been prepared in accordance with the 2015 Code and Guidelines for Assessment and Valuation of Mineral Assets and Mineral Securities for Independent Expert Reports ('VALMIN Code 2015') and the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves 2012 Edition ('JORC Code 2012').

Both codes are binding upon Members of the Australian Institute of Geoscientists ('AIG') and the Australasian Institute of Mining and Metallurgy ('AusIMM'). The author(s) have taken due note of the rules and guidelines issued by such bodies as the Australian Securities and Investments Commission ('ASIC') and the Australian Securities Exchange ('ASX') that pertain to Independent Experts' Reports including ASIC Regulatory Guide 111 –Content of Expert Reports, and ASIC Regulatory Guide 112 – Independence of Experts.

This report has been compiled by:

- Murray Hutton, BA (Hons) Geology, MAIG – Principal Consultant

With assistance from:

- Jeff Randell, BSC (Hons), MAIG - Senior Consultant

Murray Hutton is a Competent Person, as defined in Clause 11 of the JORC Code 2012, being a member of a Professional Organisation with an enforceable professional Code of Ethics and has more than five years' experience in the styles of mineralisation evident within the Lode tenements. Murray Hutton assumes overall responsibility for the contents of this IGR and has provided written consent to Lode Resources for the inclusion of this IGR in full in the Lode Resources Prospectus in the form and context in which it appears.

1.5. Site Visits

Murray Hutton carried out recent site visits to prospects within the Webbs Consol project area (EL8933) on 20 August 2020 and to prospects in the Uralla Project area (EL8980) and in the Fender Project area (EL9003) on 22 October 2020.

1.6. Reliance on Other Experts

Geos Mining has not relied on any other experts in compiling this IGR, other than those documents, reports and websites that are listed in References.

1.7. Warranties and Indemnities

In confirming the work, Lode Resources Limited warranted that it will:

- Provide all material information in its possession to Geos Mining, including any previous project assessment reports and valuations
- Ensure that necessary access will be assured for Geos Mining staff to the company's personnel and records
- Inform Geos Mining if any information is to be regarded as confidential and not to be included in the final report
- Respect the independence of Geos Mining consultants.

In accordance with Clause 11.4 of the VALMIN Code 2015, Lode Resources Limited has provided indemnities to Geos Mining for any liability:

- resulting from their reliance on information provided by Lode Resources Limited that is Materially inaccurate or incomplete; and
- relating to any consequential extension of workload through queries, questions or public hearings arising from the Public Report.

2. Property Description

2.1. Location

The Lode tenements are located in the New England Region of northern New South Wales (Figure 1) and cover parts of several 250k and 100k map sheets (Table 2).

Main towns situated near the tenements are Glen Innes, Armidale and Tamworth. The New England Highway connects these towns to Sydney and Newcastle to the south and to Brisbane to the north.

Tenement	Name	Location	250k map sheets	100k map sheets
EL8933	Webbs Consol	36km NW of Glenn Innes	SH56-05 Inverell SH56-06 Glen Innes	9138 Inverell, 9139 Ashford, 9238 Glenn Innes 9239 Clive
EL8980	Uralla	20km W of Armidale	SH56-09 Manilla SH56-10 Dorrigo	9136 Bendemeer 9137 Bundarra 9236 Armidale 9237 Guyra
EL9003	Fender	22km SE of Tamworth	SH56-13 Tamworth	9135 Nundle
EL9004	Elsinore	38km NW of Armidale	SH56-09 Manilla	9137 Bundarra
EL9084	Tea Tree	29km N of Manilla	SH56-09 Manilla	9036 Manilla 9037 Cobbadah
EL9085	Thor	43km NW of Manilla	SH56-09 Manilla	8936 Boggabri 8937 Horton
EL9087	Uralla West	30km W of Armidale	SH56-09 Manilla	9136 Bendemeer

Table 2: Map sheets for Lode tenements

2.2. Access & Infrastructure

The tenements are well served by roads, power and populated areas.

There are few metalliferous mining operations within the New England region, but several coal mines within the Gunnedah Basin to the west of the area.

2.3. Topography & Vegetation

The New England region is dominated by the Northern Tablelands plateau. The areas covered by the Lode tenements are drained by generally west-flowing tributaries of the Severn, Gwydir and Namoi Rivers

Vegetation cover is mainly pastureland or scattered native eucalypt forest.

2.4. CLIMATE

The New England region lies within a temperate zone and generally free of temperature extremes. The climate at Armidale, near the centre of the region, is classified as *Cfb* in the Köppen–Geiger climate classification system Wikipedia, 2020 (Figure 5).

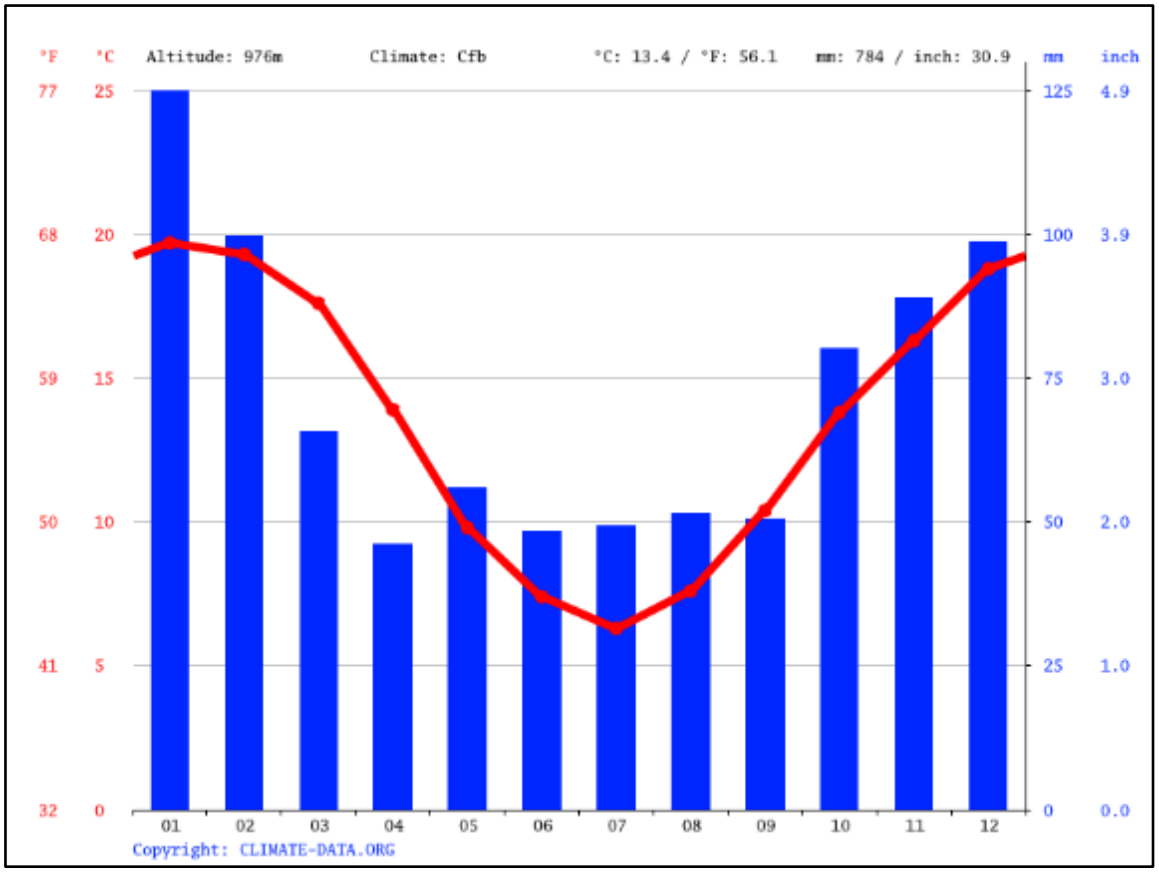

Figure 5: Average temperature (red line) and rainfall (blue bars) data for Armidale

(Source: climate-data.org)

2.5. EXPLORATION LICENCE TENURE

The seven tenements are held in the name of Lode Resources Ltd and all are granted ELs for Group One metallic minerals (Table 3).

An Independent Solicitor's Report (Timms, 2021) stating that the tenements are in good standing with no encumbrances or dealings registered against the tenements, has been sighted by Geos Mining.

Tenement	Name	Holder	Status	Grant Date	Expiry Date	Area (units[3])	Mineral Group	Work Program Commitment[4] Year 1	Year 2	Year 3
EL8933	Webbs Consols	Lode Resources Ltd	Granted	16/01/2020	16/01/2023	16	Group 1	$35,000	$40,000	$50,000
EL8980	Uralla	Lode Resources Ltd	Granted	14/05/2020	14/05/2023	80	Group 1	$60,000	$80,000	$80,000
EL9003	Fender	Lode Resources Ltd	Granted	12/10/2020	12/10/2023	76	Group 1	$45,000	$55,000	$65,000
EL9004	Elsinore	Lode Resources Ltd	Granted	12/10/2020	12/10/2023	32	Group 1	$30,000	$45,000	$45,000
EL9084	Tea Tree	Lode Resources Ltd	Granted	11/03/2021	11/03/2024	24	Group 1	$35,000	$40,000	$50,000
EL9085	Thor	Lode Resources Ltd	Granted	11/03/2021	11/03/2024	78	Group 1	$45,000	$55,000	$65,000
EL9087	Uralla West	Lode Resources Ltd	Granted	12/03/2021	11/03/2024	22	Group 1	$20,000	$25,000	$25,000
							TOTAL	**$270,000**	**$340,000**	**$380,000**

Table 3: Lode Resources Tenements Expenditure Commitments

[3] A graticular unit in the area of the Lode tenements is ~3 km^2

[4] NSW Division of Resources and Geoscience requires a commitment to a work program rather than an expenditure commitment. Work programs can be varied annually.

2.6. Land Tenure & Surface Rights

Cadastral data has been downloaded from the NSW website SIX Maps NSW Government Spatial Services, 2020 for all tenements. Data includes details of Lot and Deposited Plan numbers together with the administering authority. Landholder details are not provided but can be obtained from proprietary databases such as Confirm (CITEC, 2020).

The diagrams shown in Appendix 1 (Figure 65, Figure 66, Figure 67, Figure 68, Figure 69) show the distribution of Crown Land within each tenement; all other land is classified as 'Freehold'. We note that Crown Land is administered by the Crown Lands Department and access may be restricted. Freehold land may include leasehold land or land in which mineral rights are held by the owner. It is therefore recommended that title searches be carried out to determine the classification of all land parcels as this will determine access requirements and any limitations.

We note that there are recorded sites of European heritage in one of the Lode tenements:

- EL8980 – Captain Thunderbolt sites (Figure 66, blue dots)

2.7. Native Title and Indigenous Heritage

Native Title Claim application NC2011/006 in the name of the Gomeroi People covers the seven granted Exploration Licences (Appendix 2 - Native Title & Indigenous Heritage Sites). The application has been accepted for registration but has not yet been determined.

A search of the AHIMS website NSW Environment and Heritage, 2020 has indicated that there are recorded cultural heritage sites within EL8933 (4 sites), EL8980 (20 sites), EL9003 (2 sites), EL9004 (1 site), EL9084 (1 site), EL9085 (35 sites) and EL9087 (1 site). An extensive search has been carried out to determine the precise location and nature of these sites, as shown in Figure 71 to Figure 74. A detailed account of these searches is shown in Appendix 2 - Native Title & Indigenous Heritage Sites.

In particular, we note that three sites (6020-16, 6153-01 and 8980-15) are 'Closed Sites'. We would expect that these sites have special significance to the Traditional Owners and recommend consultation with the Traditional Owners. Cultural heritage surveys are recommended to be carried out prior to any surface disturbing activities.

2.8. Royalties, Farm-in Rights, Payments & Agreements

Lode Resources has advised that the tenements are 100% fully owned by Lode Resources Ltd with no rights such as royalties payable, options or earn-in rights held by or owed to any third parties (Ted Leschke, email dated 7 October 2020).

The only financial commitments are the normal statutory security deposits, rental fees and levies payable to the New South Wales Government.

2.9. Environmental Liabilities

The NSW SEED website (NSW Government, 2020) has been accessed to determine areas of environmental concern within each of the Lode tenements. Diagrams showing the results of this search are shown in Appendix 3 – Areas of Environmental Concern (Figure 75, Figure 76, Figure 77 and Figure 78). An explanation of each of the symbols in these maps is shown in Table 31. Geos Mining has not determined the specific restrictions that may or may not be applied to mineral exploration in these areas, but we note that these will need to be investigated prior to any government approval of surface disturbing exploration activities.

There are no State Forests within any of the Lode tenements although the Plagyan State Forest abuts the western edge of EL9085. The Mount Kaputar National Park is located ~1 km west of the western edge of EL9085.

The Split Rock Reservoir in the southern part of EL9084 supplies water for irrigation and water supply for nearby towns. It is also used for flood mitigation and recreation. Exploration activities that result in surface disturbance in areas upstream of the reservoir may have detrimental effects on the water quality in the reservoir and may require special protocols to mitigate against such effects.

3. Historical Exploration

3.1. Historical Exploration

A total of 95 historical Exploration Licences covered parts of the area of the Lode tenements. Of these, most tenements involved only minor exploration programs that did not significantly progress the understanding of the areas. The most significant historical tenements, in terms of exploration programs undertaken, are listed in Table 4.

Lode Tenement	Tenement	Company	Years	COMMENTS
EL8933	EL1079	CRA EXPLORATION PTY LIMITED	1978 - 1984	Mapping, geophysics & drilling Webbs Consols, Wellingrove & Tangoa prospects
	EL6239	SILVER MINES LIMITED	2004 - 2014	Extensive drilling & modelling at Webbs Consols, Wellingrove & Tangoa occurrence
EL8980	EL0327	GULLIVER, E	1970 - 1972	Geochemical sampling at Reedy Creek prospect
	EL2387	LOW, TR	1985 - 1990	Mapping, soil & rock chip sampling Goldsworth mine area
	EL4795	CYPRUS GOLD AUSTRALIA CORP.	1995 - 1997	Soil & rock chip sampling Uralla Goldfield
	EL4886	CYPRUS GOLD AUSTRALIA CORP	1995 - 1997	Soil & rock chip sampling Uralla Goldfield
	EL6219	BANLONA PTY LIMITED	2004 - 2006	Soil, stream sediment & rock chip sampling.
	EL6483	SOVEREIGN GOLD	2006 - 2018	Drilling Martin shaft, costeans & rock chip sampling. Significant Au assay results in drilling
EL9003	EL0464	FISCHERS COPPER MINE PTY LIMITED	1971 - 1972	Soil & rock chip sampling Mt Pleasant prospect
	EL0563	ELECTROLYTIC ZINC COMPANY OF AUSTRALASIA LTD	1972 - 1974	Geochemical sampling & magnetic susceptibility readings at Woolowin prospect
	EL5392	MALACHITE RESOURCES NL	1997 - 1999	BLEG & rock chip sampling at Limbri goldfield
	EL6509	AUZEX RESOURCES LIMITED	2006 - 2008	Soil & rock sampling.
	EL6560	MALACHITE RESOURCES NL	2006 - 2008	Stream sediment sampling.
	EL6613	PEEL EXPLORATION LIMITED	2006 - 2010	Soil & rock chip samples from Mt Pleasant, Trough Gully & Mulla Ck
	EL7770	IRGS NORTHERN GOLD PTY LTD	2011 - 2015	Good rock chip samples from Trough Gully, Fischer's & Mulla Ck
EL9004	EL7768	SUGEC RESOURCES / SOVEREIGN GOLD	2011 – 2016	Soil sampling, IP geophysics
EL9084	EL7859	PINNACLE GOLD P/L	2011 - 2013	2 drillholes at Shamrock.
EL9085	EL7868	PINNACLE GOLD P/L	2012 - 2020	Covers most of EL9085.
EL9087	EL7491	SUGEC RESOURCES / SOVEREIGN GOLD	2010 - 2020	Geochemical sampling 25 DD drillholes, 1,977m

Table 4: Significant historical exploration within area of Lode tenements

3.2. Lode Resources Exploration

Since the grant of the ELs, Lode has undertaken compilation of historical exploration reports, rock chip sampling and IP surveys over prospects in EL8980.

4. Geological Setting

4.1. Regional Geology

The Lode tenements lie within the southern part of the New England Orogen (NEO) (Figure 2), an accretionary regime formed along the eastern edge of Gondwana from the Devonian to Triassic periods (Li, et al., 2012).

The NEO is a major geological zone that extends from the Newcastle area north to Far North Queensland. The NEO can be described as a complex orogen with ocean island arc, continental margin arc and accretionary sedimentary and volcanic components. Deep ocean sediments were subducted and thrust into the Gondwana land mass at that time. They were mixing with sediments formed from the eroding mountains and volcanoes that existed on the margins of the continent. The NEO has a complex structural history and the sedimentary rocks are generally folded and regionally metamorphosed. The NEO includes a major plutonic province and there are numerous intrusive units, generally felsic in character, as well as extrusive volcanic rocks of similar age and composition.

The NEO is defined by two main cycles of compression-extension. The compression component involves thrust tectonics and advance of the arc towards the continental plate, while extension is characterised by rifting, basin formation, thermal relaxation and retreat of the arc towards the oceanic plate (Jessop, et al., 2019).

The tectonic history of the New England Orogen (Glen, 2011) comprised:

- an intra-oceanic volcanic arc developed over an east-dipping subduction zone during the Early to Middle Devonian
- rifting of the arc during the Late Devonian and formation of late rift basalts and dolerites that contain gold
- collision of that arc with rest of Gondwana (= Lachlan Orogen), formation of stitching plutons
- flip of subduction zone, so that new west-dipping subduction zone forms a Late Devonian to Late Carboniferous continental margin arc built above old collided arc (Figure 6).

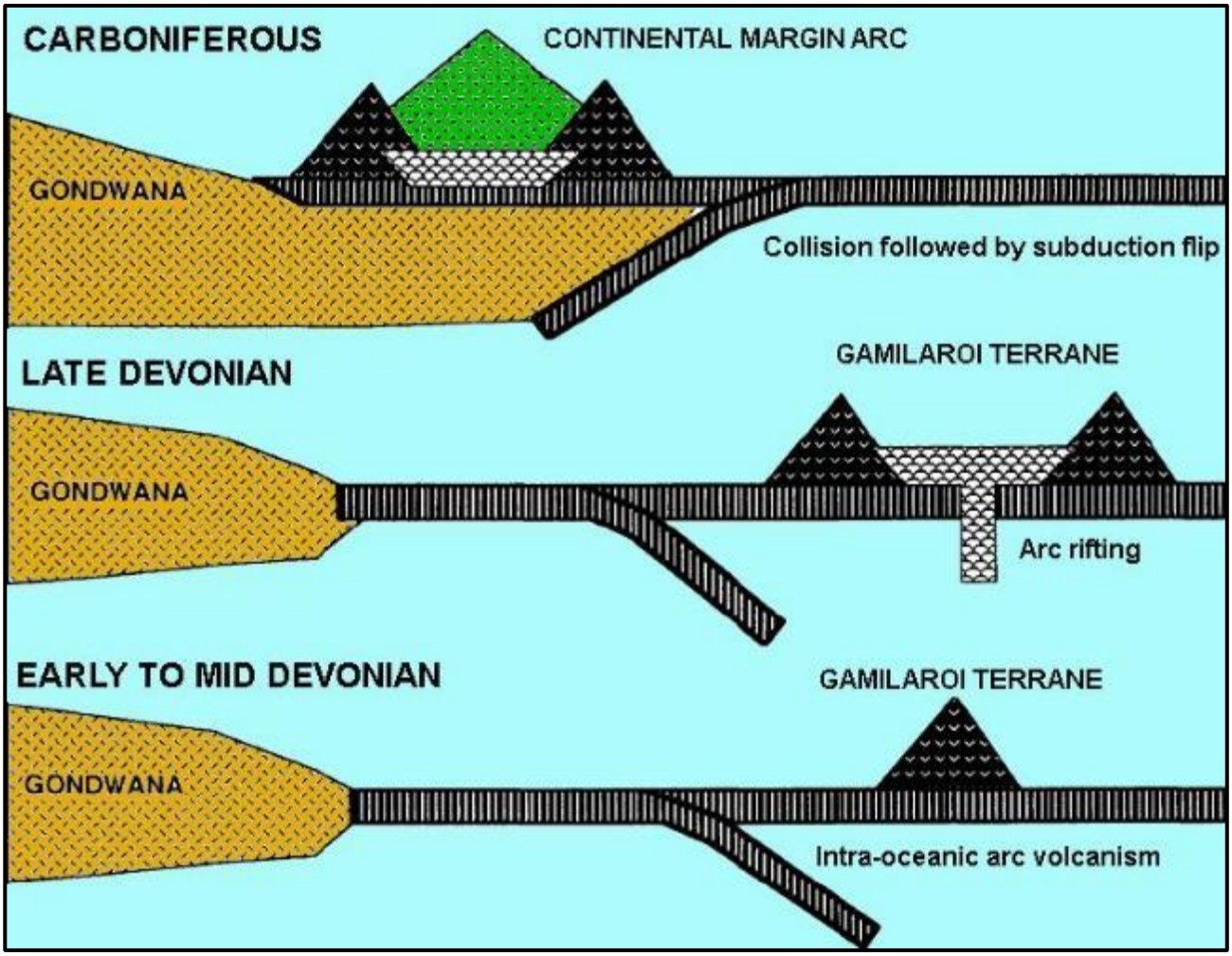

Figure 6: Tectonic history of New England Orogen (Glen, 2011)

Uplift associated with Late Permian or Triassic granitoid intrusion caused the detachment of Carboniferous blocks, which slid south and southwest, generating a low angle thrust along southern parts of the Hunter-Mooki Fault System.

The Peel Fault Zone represents a major structural boundary between the Tamworth Zone to the west and the Central Block to the east. Dipping steeply to the east, the fault is characterized as a zone of reverse faults with several associated splays and was periodically active from the Permian to Neogene. Pods and lenses of serpentinite, which were once part of the oceanic crust, occur along the Peel Fault and associated splays.

4.2. Mineralisation Styles, Prospects & Mine Workings

The GSNSW database, downloaded from the Minview website, shows a total of 35 mineral occurrences (excluding those classified as 'occurrence only') within the Lode tenements (Table 5). A variety of mineralisation styles and commodities are represented, including:

- Intrusive-related gold veins

- Intrusive-related polymetallic veins
- Structurally-controlled hydrothermal Au+Sb veins
- Volcanic-associated massive sulphide deposits
- Orogenic quartz-gold veins
- Granite-hosted W-Mo-Bi pipes and disseminated
- Volcanogenic Mn-Fe deposits
- Alluvial / eluvial / deep lead gold deposits
- Alluvial / eluvial / deep lead tin deposits

Gold was discovered in 1851 at Rocky River (latitude 30.57° S / longitude 151.46° E), approximately two kilometres west of Uralla, and a rush to the area started. Discoveries of antimony, coal, gold, silver, lead, zinc, sapphires and tin soon followed, and these minerals have been the most important economic commodities mined in the New England region.

However, despite a lengthy history of mine discovery and production, there is only one metallic minerals mine currently operating in the New England region: the Three Creeks Gold Mine at Upper Bingara (latitude 30.05° S / longitude 150.64° E). Although it is an operating reef gold mine, it is more of a tourist attraction, with a mining museum and gold panning activities.

The Hillgrove gold-antimony mine near Armidale (latitude 30.57° S / longitude 151.90° E) was placed on care and maintenance in 2016 due to low antimony prices (Red River Resources Limited, 2019). However, Red River have reported that underground mining operations are forecast to commence mid to late 2021 in the Metz Mining Centre, which contains Mineral Resources totalling 3.0Mt @ 4.5 g/t Au & 1.4% Sb (426,000 oz gold & 41,000t antimony), reported in accordance with the JORC Code 2012 (Red River Resources Limited, 2020).

In the southern Queensland portion of the NEO, the Twin Hills silver mine (latitude 28.84° S / longitude 151.26° E) was placed on care and maintenance in 2014. Jadar Resources (ASX:JDR) recently announced that it will acquire the project from Moreton Resources (Jadar Resources Limited, 2020). Moreton had previously announced total resources at Twin Hills of 8.4Mt @ 51 g/t Ag (Moreton Resources Limited, 2016).

Other significant mineral deposits in the NEO currently being explored include Corazon Mining Limited's Mt Gilmore cobalt-copper-gold project located 35km northwest of Grafton (latitude 29.46° S / longitude 152.67° E), Chase Mining Corporation Limited's topaz and tungsten project near Torrington (latitude 29.27° S / longitude 151.63° E) and Castillo Copper Limited's Cangai Copper project (latitude 29.50° S / longitude 152.50° E), which has announced total resources of 3.2Mt @ 3.4% Cu (Castillo Copper Limited, 2017).

EL	NAME	Commodity	Longitude	Latitude	Style
EL8933	Lucky Lucy shaft	Pb,Ag	151.47605	-29.49099	IRPV
EL8933	Wellingrove south	Pb,Ag,Zn	151.49218	-29.50931	IRPV
EL8933	Bartons quarry	Pb,Ag,Zn	151.47659	-29.49605	IRPV
EL8933	Mount Galena mines	Pb,Ag,Zn	151.47857	-29.49472	IRPV
EL8933	Webbs Consols #1 shaft	Pb,Ag,Zn	151.47808	-29.49336	IRPV
EL8933	Webbs Consols #3 #4 shaft	Pb,Ag,Zn	151.47774	-29.49543	IRPV
EL8933	Tangoa prospect	Pb,Zn	151.49250	-29.52240	IRPV
EL8980	Brown's Reef	Au	151.44232	-30.64967	IRGV
EL8980	Martins Shaft	Au	151.41077	-30.63163	IRGV
EL8980	Frazers Find	Au,Ag,Sb	151.43059	-30.61335	Structurally controlled
EL8980	Goldsworth Mine	Au	151.43825	-30.58177	IRGV
EL8980	Gracie, Little Gracie	Au	151.41295	-30.62694	Structurally controlled
EL8980	Landrigan Hill	Au	151.42410	-30.60217	Alluvial – deep lead
EL8980	Mount Welsh	Au	151.47552	-30.60856	Alluvial – deep lead
EL8980	Suey's Claim	Au,Sb	151.42742	-30.62865	Structurally controlled
EL8980	Gwydir River Gold	Au	151.43308	-30.48445	Alluvial
EL8980	Rocky River	Au	151.46301	-30.56871	Alluvial
EL8980	Khatoun prospect	Mn	151.40745	-30.62533	Volcanogenic Mn-Fe
EL9003	New Years Gift	Au	151.11551	-31.06662	Structurally controlled
EL9003	Rackhams Reward Mine	Au	151.14395	-31.05891	Structurally controlled
EL9003	Spring Creek Alluvials	Au	151.10807	-31.07192	Alluvial
EL9003	Fischer's Copper Mine	Cu	151.13250	-31.21571	VAMS
EL9003	Mulla Creek Mine	Cu	151.14929	-31.16183	VAMS
EL9003	Trough Gully Mine	Cu	151.11749	-31.17851	VAMS
EL9003	Woolomin Mine	Cu	151.14111	-31.25823	VAMS
EL9003	Oakview Mn Prospect	Mn	151.12451	-31.08840	VAMS
EL9003	Oakview North Mn	Mn	151.12565	-31.08391	VAMS
EL9004	Boorolong Mo Mine	Mo	151.44320	-30.27345	Granite-hosted
EL9084	Black Mountain Reef	Au	150.66878	-30.47410	Structurally controlled
EL9084	Dyson's Reef	Au	150.66205	-30.49419	Structurally controlled
EL9084	Readings Reef	Au	150.64936	-30.43704	Structurally controlled
EL9084	Shamrock Reef	Au	150.66062	-30.46701	Structurally controlled
EL9084	Teatree Creek Gold	Au	150.65679	-30.49626	Alluvial
EL9085	Old Willaroi Creek Alluv	Au	150.31112	-30.41229	Alluvial
EL9085	Unnamed	Au	150.33376	-30.50177	Alluvial

Table 5: Mineral Occurrences within the Lode Resources tenements

Source: Minview; excludes small occurrences classified as 'occurrence only'

IRPV = Intrusive-related polymetallic veins; IRGV = Intrusive-related gold veins; VAMS = Volcanic-associated massive sulphide

5. Regional Exploration Data

Open file exploration data was downloaded from the NSW Government web-based data portal. Downloaded data included:

- Over 25,000 stream sediment samples collected from the area of the New England Orogen surrounding the Lode tenements
- Over 5,100 soil samples from within or adjacent to the Lode tenements
- 385 rock chip samples from within the Lode tenements
- Exploration reports for 81 Exploration Licences for Group 1 elements that covered parts of the Lode tenements
- Summary information on 116 metallic mineral occurrences located within the Lode tenements
- Images of regional airborne magnetics data
- Images of regional residual gravity data

Distribution statistics for major elements in the regional stream sediment data are presented in Table 6. Plotting of anomalous values (above 91%ile) did not identify any significant areas of mineralisation that were not previously known. Results for soil and rock chip sampling are discussed in the individual prospect sections.

	Au_ppb	Ag_ppm	Cu_ppm	Pb_ppm	Zn_ppm	As_ppm	Mo_ppm
Count	5,576	5,457	19,780	6,799	16,286	4,755	4,459
Max	400,000	220	3,600	5,100	9,600	9,240	1,200
97%ile	42	2.0	105	70	366	158	10
91%ile	20	1.0	76	42	120	38	5
78%ile	2	1.0	56	28	94	17	3
52%ile	0.4	0.5	40	15	75	8	1

Table 6: Distribution statistics for regional stream sediment samples

Images of airborne magnetics data and residual gravity data are shown in Figure 7 and Figure 8, respectively, showing the influence of the major thrust fault zones in subdivisions of the New England Orogen units.

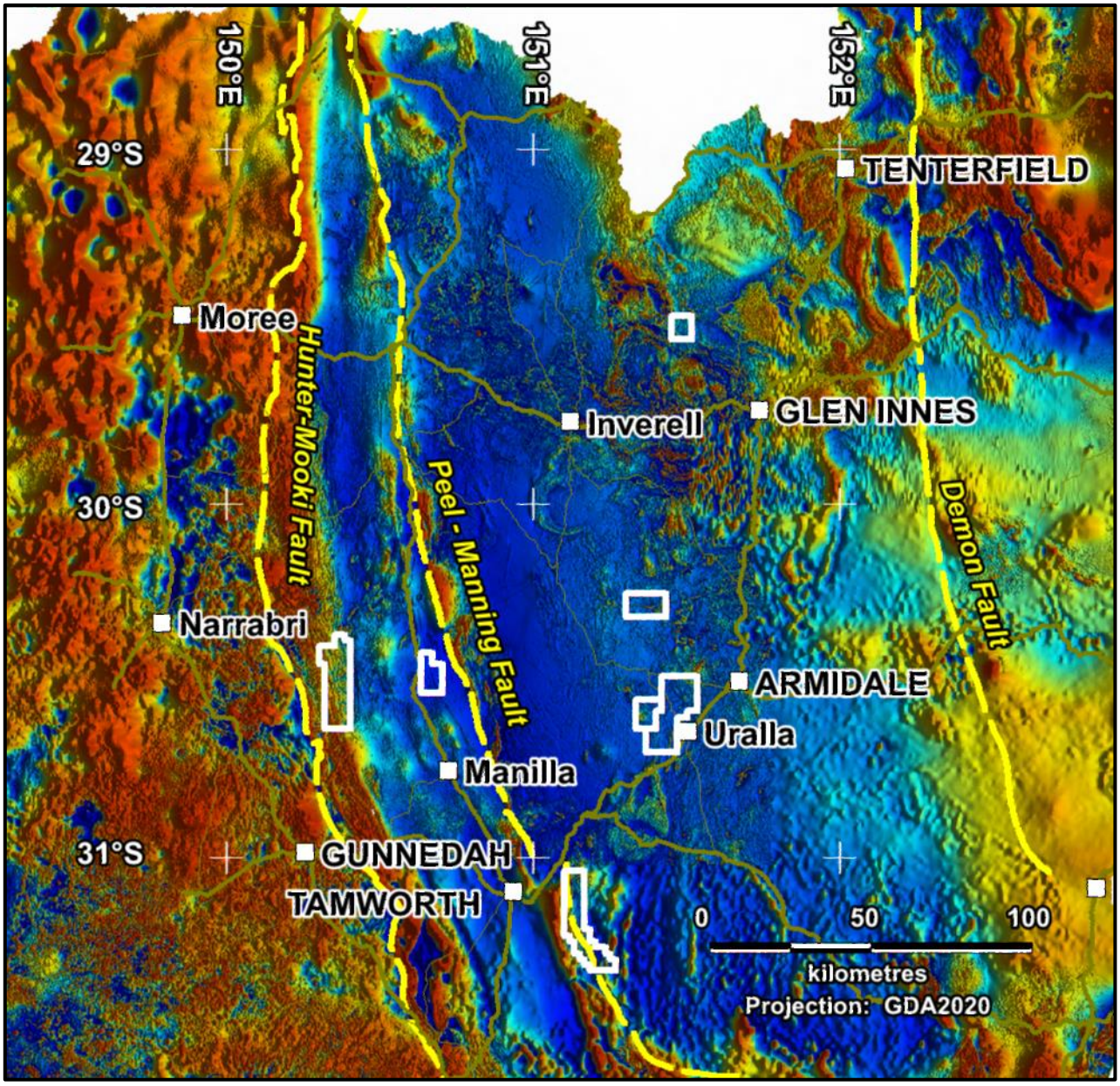

Figure 7: New England Regional airborne magnetic data – TMI-RTP

Source: GSNSW

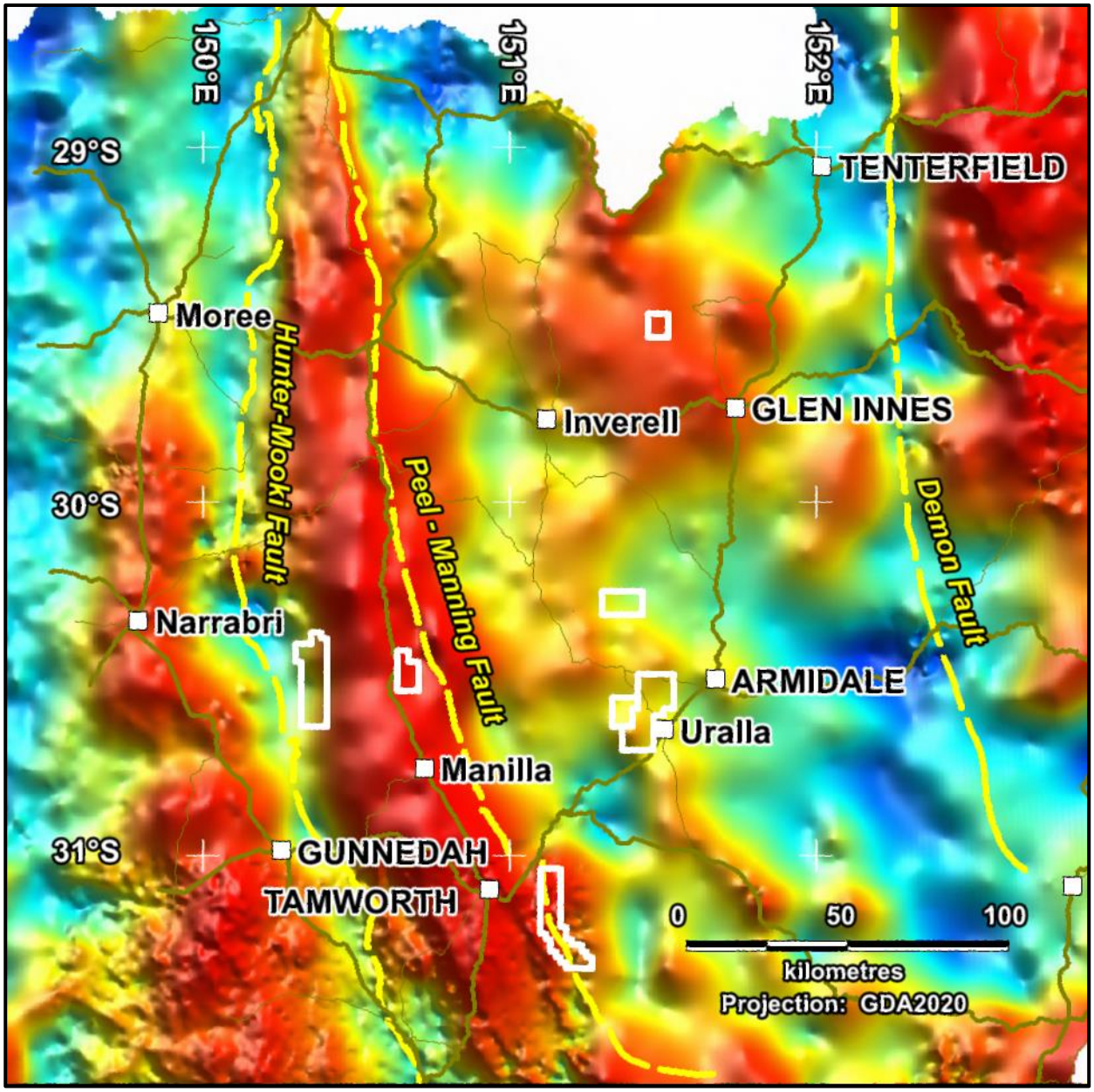

Figure 8: New England Regional Residual Gravity data

Source: GSNSW

6. Exploration Rationale

The New England Region holds potential for several styles of mineralisation:

- Intrusive-related gold veins (Uralla, Upper Bingara)
- Intrusive-related tin and tungsten deposits (e.g., Taronga tin, Attunga tungsten, Mole Granite deposits)
- Hydrothermal vein style gold, silver and base metal deposits (Webbs Consols, Webbs Silver)
- Alluvial / eluvial / deep lead gold deposits (Rocky River – Uralla Goldfield, Nundle region)
- Alluvial / eluvial / deep lead tin deposits (Emmaville district)
- Structurally-controlled hydrothermal Au+Sb veins (Hillgrove)
- Volcanic-associated massive sulphide deposits
- Orogenic quartz-gold veins
- Granite-hosted W-Mo-Bi pipes and disseminated
- Volcanogenic Mn-Fe deposits
- Residual bauxite deposits (Inverell district)

Work undertaken recently by other companies and the Geological Survey of NSW has discovered mineralisation and alteration styles comparable to Intrusive-Related Gold Systems (IRGS), which is a classification of deposit only recently defined (based on the Tintina Gold Province of Alaska-Yukon) (Thompson, et al., 1999, Hart, 2005) (Figure 9), but which has become associated with many major gold deposits throughout the world (e.g., Fort Knox, Donlin Creek, Mokrsko, Salave, Timbarra, Kidston).

Hard-rock deposits within the Rocky River-Uralla Goldfield show multiple characteristics diagnostic of Reduced Intrusion-Related Gold Systems, determined from petrographic studies and include anomalous bismuth, gold-bearing sheeted veins, sericitic alteration and tourmalinisation (Leu, et al., 2015).

High-grade pipe-shaped silver-lead-zinc deposits have been identified at several prospects in the Webbs Consols project area. Similarly, the Fender Project tenement contains several copper-bearing massive sulphide deposits.

Most occurrences discovered to date within the areas covered by the Lode tenements are small in size, but some are quite high grade and occur in clusters of individual occurrences.

Ongoing programs by the GSNSW continue to reveal information that is useful in locating additional styles of mineralisation in the New England region.

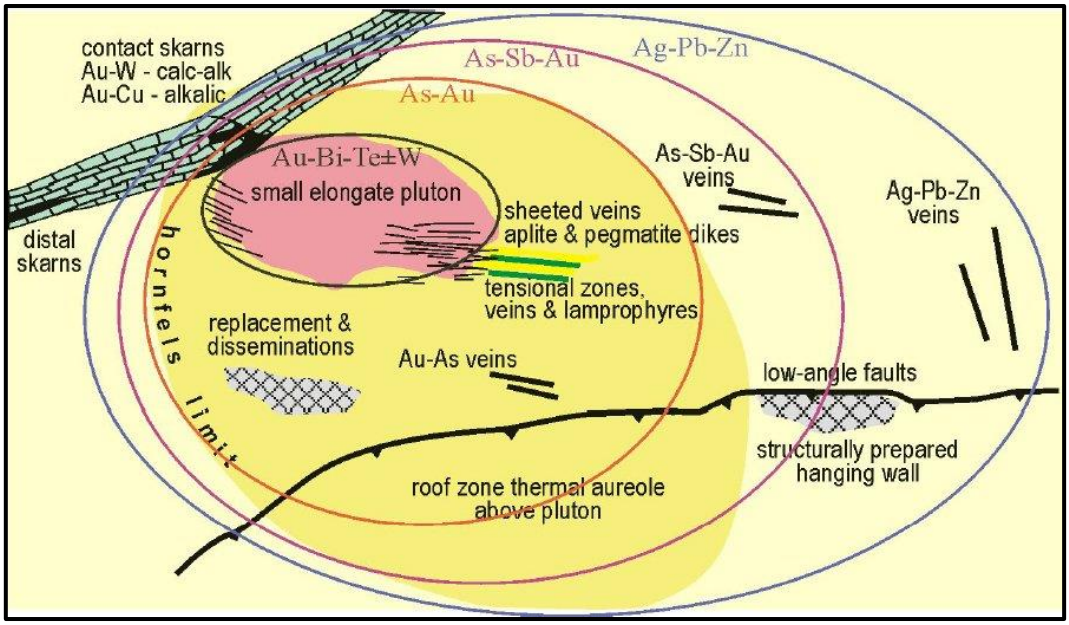

Figure 9: IRGS model from Hart, 2005

7. Webbs Consol Project (EL8933)

7.1. Mining History

The historical Webbs Consols mine (Photo 1) is located approximately 13km WSW from Emmaville (latitude 29.4933 °S / longitude 151.4781° E). The deposit was discovered in 1884 and worked intermittently until the 1970s (Brown & Stroud, 1997), with an estimated 19,000t of high grade lead-silver ore from a pipe-like body resulting in production of 75,000-100,000 ounces of silver, 750-1,000 tonnes lead and 100 tonnes zinc (McClatchie, 2005).



Photo 1: Webbs Consols No1 Shaft

The main orebody was worked from shafts, drives and stopes from approximately 20m below surface to approximately 12m below the 190' Level[5] (~70m below surface) (Figure 10). The lode is zoned, with lead in the upper levels giving way to zinc at depth (Weber, 1974).

Sampling of the orebody on the "205' Level" by J. H. Grant, a former manager of the mine, returned average assays of 2.74% lead, 22.6% zinc and ~210 g/t silver (Phipps, 1956). However, Phipps, 1956, mentioned that the mineralisation consisted of disseminated sphalerite and galena with scattered pods of massive sulphides and that the sampling may not have given accurate average grades.

Other nearby occurrences include Mt Galena, Lucky Lucy, Wellingrove and Tangoa (Figure 11), but only limited production was recorded for these occurrences (McClatchie, 2005).

[5] In some publications the workings on this level are referred to as the "205 ft Level".

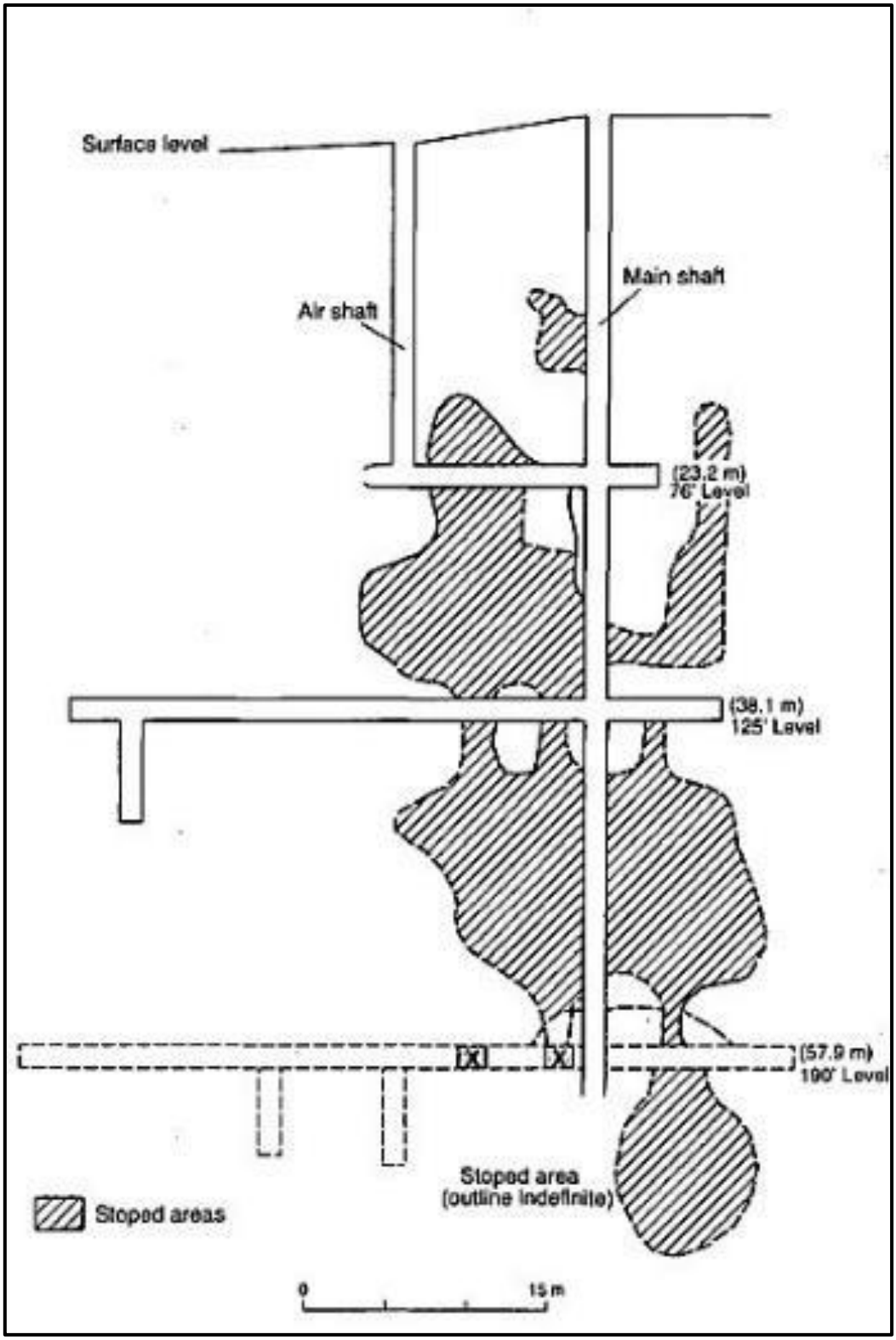

Figure 10: Webbs Consols mine cross-section

Source: Brown & Stroud, 1997

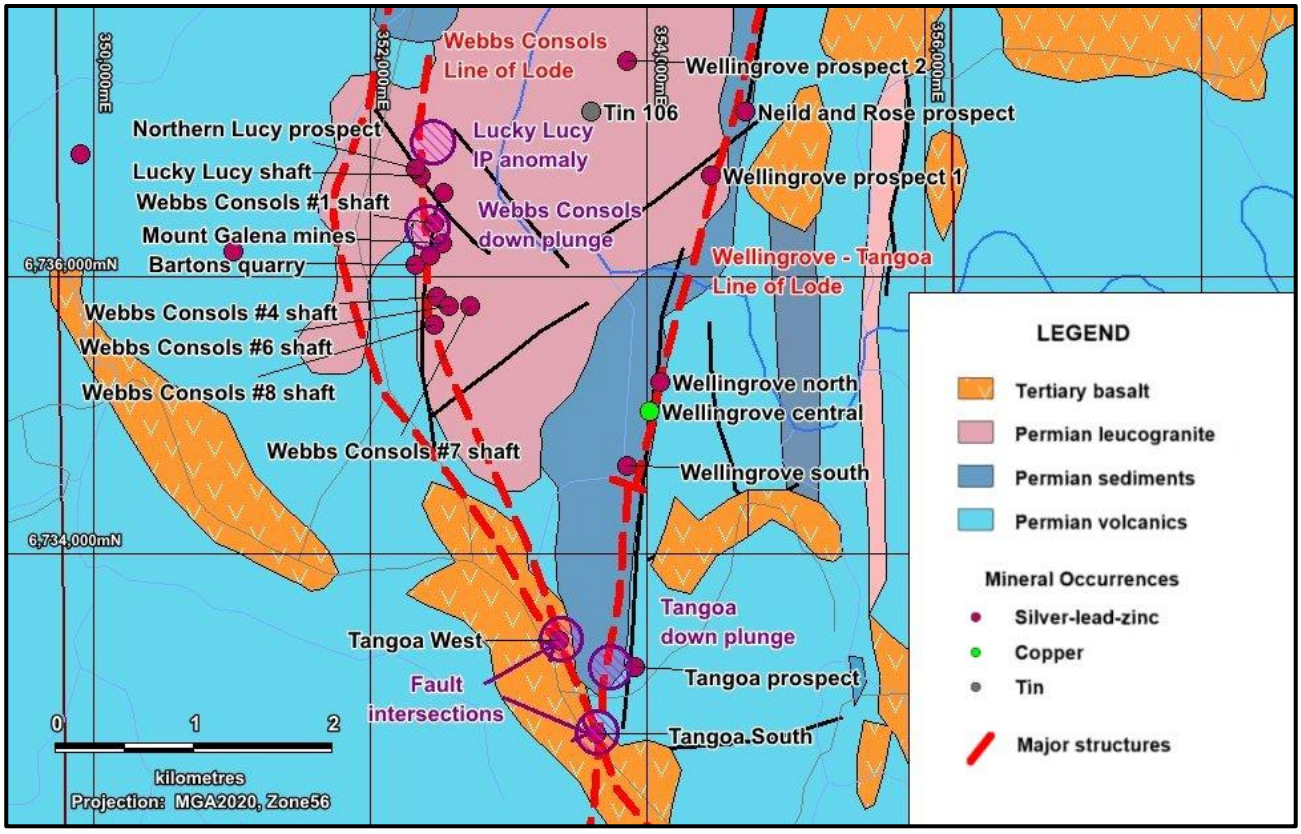

Figure 11: Webbs Consols area Main Mineral Occurrences & Conceptual Exploration Targets

7.2. HISTORICAL EXPLORATION

Group 1 Exploration Licences that covered EL8933, or parts thereof, are listed in Table 7. ELs for Group 2 Industrial Minerals or Group 6 Gemstones are not shown.

Title_ref	Holder	Start_ymd	End_ymd	Minerals	Area (sb)
EL1079	CRA EXPLORATION	19781001	19820110	Cu Pb Zn Ag Mo	64
EL1465	NEWMONT HOLDINGS	19801001	19811001	Sn W	247
EL1689	CRA EXPLORATION	19810810	19841001	Pb Zn Ag Au Sn	64
EL1908	ABERFOYLE LIMITED	19800901	19830901	Sn	425
EL2015	CRA EXPLORATION	19830401	19841001	Cu Pb Zn Sn Au	6
EL2086	SELTRUST MINING CORP	19830901	19850901	Sn	238
EL3229	TJ & PV NUNAN	19881101	19900928	Pb Zn Ag Au Sb	24
EL6239	SILVER MINES LIMITED	20040517	20140722	As Pb Ag Zn Au	10
EL6431	AUSTRALIA ORIENTAL MINERALS	20050610	20110609	Sn W Mo Bi Cu Pb Ag Zn	29
EL6772	SILVER MINES LIMITED	20070508	20120404	Ag Base Metals	35

Table 7: Exploration Licences covering EL8933

CRA Exploration

Significant exploration programs were completed by CRA Exploration (EL1079, EL1689, EL2015) (Figure 12), primarily on the Wellingrove, Tangoa and Webbs Consols prospects (English, 1979b; Matthias, 1982), including:

- Geological mapping
- Stream sediment, rock chip & soil sampling
- Ground magnetics & IP geophysics surveys
- Open hole percussion and diamond drilling (Figure 12)
- Downhole IP & EM

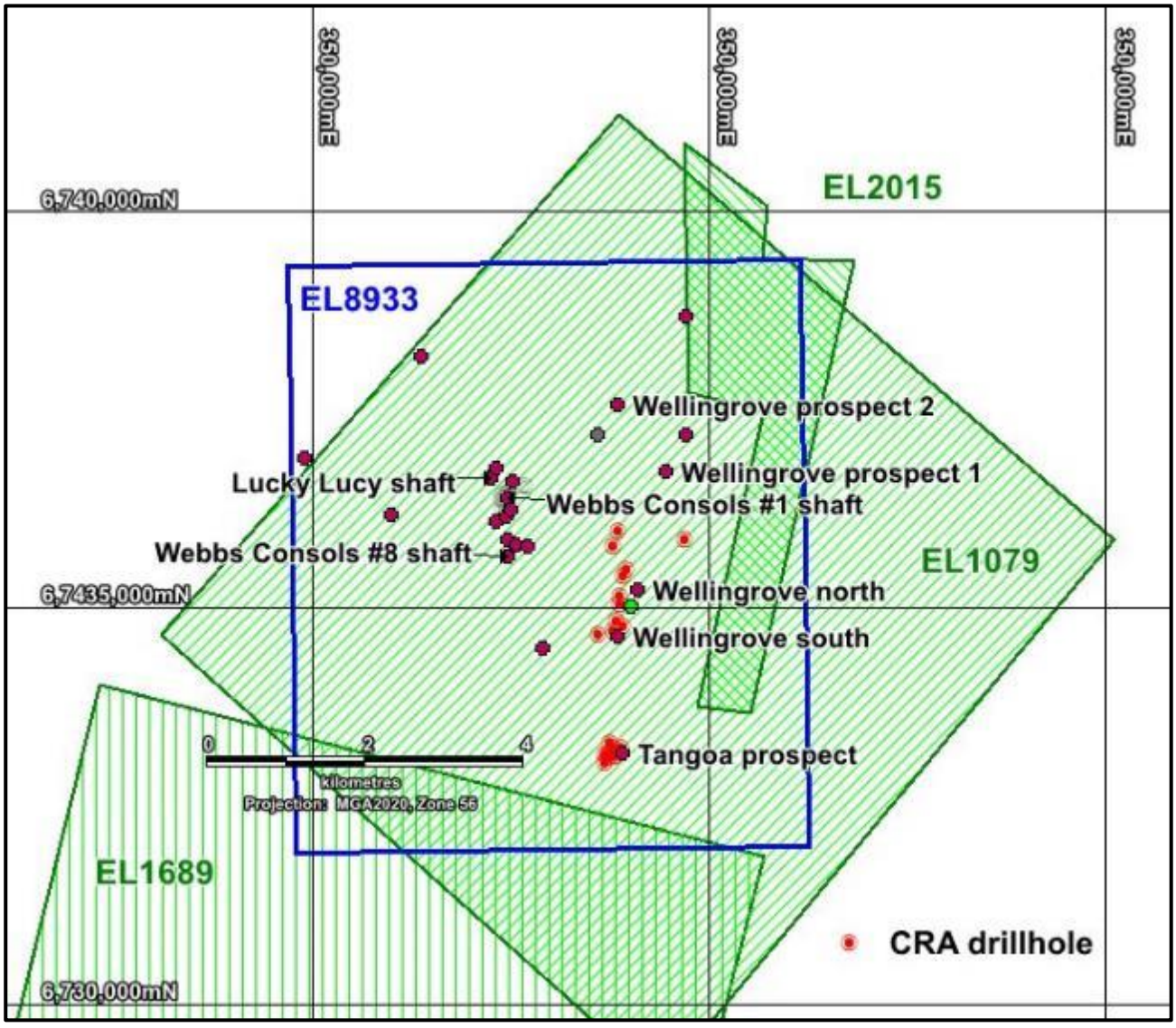

Figure 12: EL8933, CRA ELs and drillholes

CRA initially believed that the Webbs Consols occurrence occurred in an acid volcanic sequence, rather than within porphyry and granite intrusives, and targeted volcanogenic massive sulphide mineralisation. However, subsequent geological mapping determined that the mineralisation consists of hydrothermal vein-filling systems localised by structures post-dating the felsic intrusive bodies (Cotton, 1984).

CRA concluded that stream sediment sampling was very effective in locating Pb-Zn mineralisation. Dipole-dipole IP gave consistently good chargeability anomalies in the vicinity of mineralisation, but magnetics and EM methods were ineffective (Cotton, 1984).

CRA undertook extensive soil, rock chip and stream sediment sampling over the Wellingrove and Tangoa prospect areas. However, their data were recorded on maps with limited location reference points and assay results were recorded on hand-written ledgers. These data have not been compiled into the GSNSW geochemical database.

Silver Mines Limited

Silver Mines Limited ('SML') (EL6239, EL6772) (Figure 13) concentrated on testing the Webbs Consols occurrence (James, 2007; Elliott, 2008), including:

- RC drilling (8 drillholes, totalling 734m) (Table 8, Figure 13)
- IP geophysics (Figure 16, Figure 17)
- 3D modelling of the Webbs Consols, Wellingrove and Tangoa occurrences (Figure 22)

SML proposed additional drilling for all three main prospects on EL6239, but financial commitments on their Webbs Silver project (located approximately 17km NE of Webbs Consols and outside the area of EL8933) curtailed any further work. A review of the exploration potential conducted by Burke Geoscience in 2009 recommended two conceptual exploration targets at Tangoa South and Tangoa Southwest, both of which occur at the intersections of major fault zones (Figure 11) (Burke, 2009).

Exploration on EL6772, which surrounded EL6239, was restricted to literature reviews and minor rock chip geochemistry of mine dump material. There were no significant results.

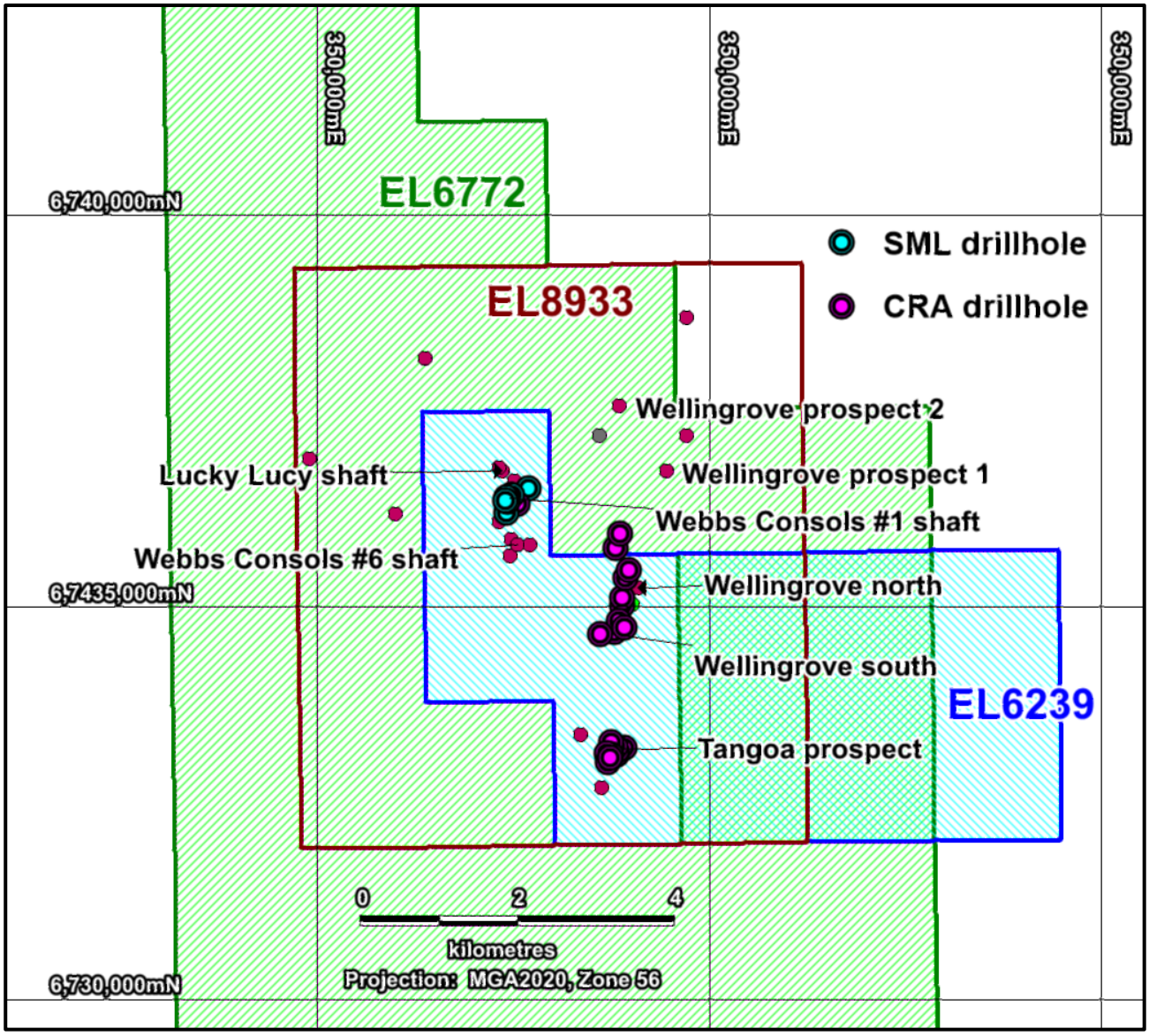

Figure 13: EL8933, SML ELs and drillholes

Other Companies

Other companies that held ELs over parts of EL8933, including Aberfoyle, Newmont, Seltrust and Australia Oriental Minerals, were primarily interested in granite-hosted tin mineralisation and, apart from stream sediment sampling that did not return any significant results, did very little exploration within the area of EL8933.

7.3. Mineralisation Styles

The main mineral occurrences within EL8933 are considered to be hydrothermal vein-type mineralisation forming several elongate pods or lenses that are discontinuous along a total strike extent of approximately 5km (Cotton, 1984) (Photo 2).



Photo 2: Webbs Consols mineralisation, sample from mine dump

Scale in centimetres

Mineralisation occurs in steeply dipping pipe-like bodies and veins that have formed along the intersection of the main north-south shear zones and northeast-trending en echelon cross-fractures (James, 2007). At Webbs Consols, the host rocks are a silica-rich, fractionated, I-type leucogranite (Webbs Consols Leucogranite) and quartz porphyry that have intruded Late Permian Emmaville Volcanics and undifferentiated Early Permian clastic sediments (James, 2007). The Wellingrove-Tangoa line of lode is located along the eastern margin of a block of undifferentiated sediments (Cotton, 1984).

The Webbs Consols occurrence shows vertical zonation, with galena-arsenopyrite in the upper levels grading into sphalerite-chalcopyrite at the 60m level (Phipps, 1956). Fluid inclusion studies indicated a temperature of formation of 250°- 400°C (Brown & Stroud, 1997). Sulphur isotope studies indicated that the mineralisation had a magmatic source.

7.4. Geological Mapping

Geological mapping by CRA Exploration was aimed initially at defining prospective volcanic host rocks for VMS style deposits. However, later studies (including a mapping program in conjunction with a BSc

Honours student from University of New England, S Meldrum (cited in Cotton, 1984) established that the Webbs Consols host rocks were sheared intrusive rocks and that mineralisation was localised along the intersection of the main shear and cross-cutting faults. The Webbs Consols line of lode, which includes the Lucky Lucy, Bartons Quarry and Mt Galena occurrences, and the Wellingrove-Tangoa line of lode were interpreted as hydrothermal-type vein filling mineralisation.

7.5. Surface Geochemistry

CRA's stream sediment sampling was mainly in drainages located within the southern half of EL8933. They concluded that the sampling was very effective in locating Pb-Zn mineralisation (Figure 14). All Pb and Zn anomalies were shown to be draining areas of altered porphyry similar to those hosting mineralisation in the main prospects (Cotton, 1984).

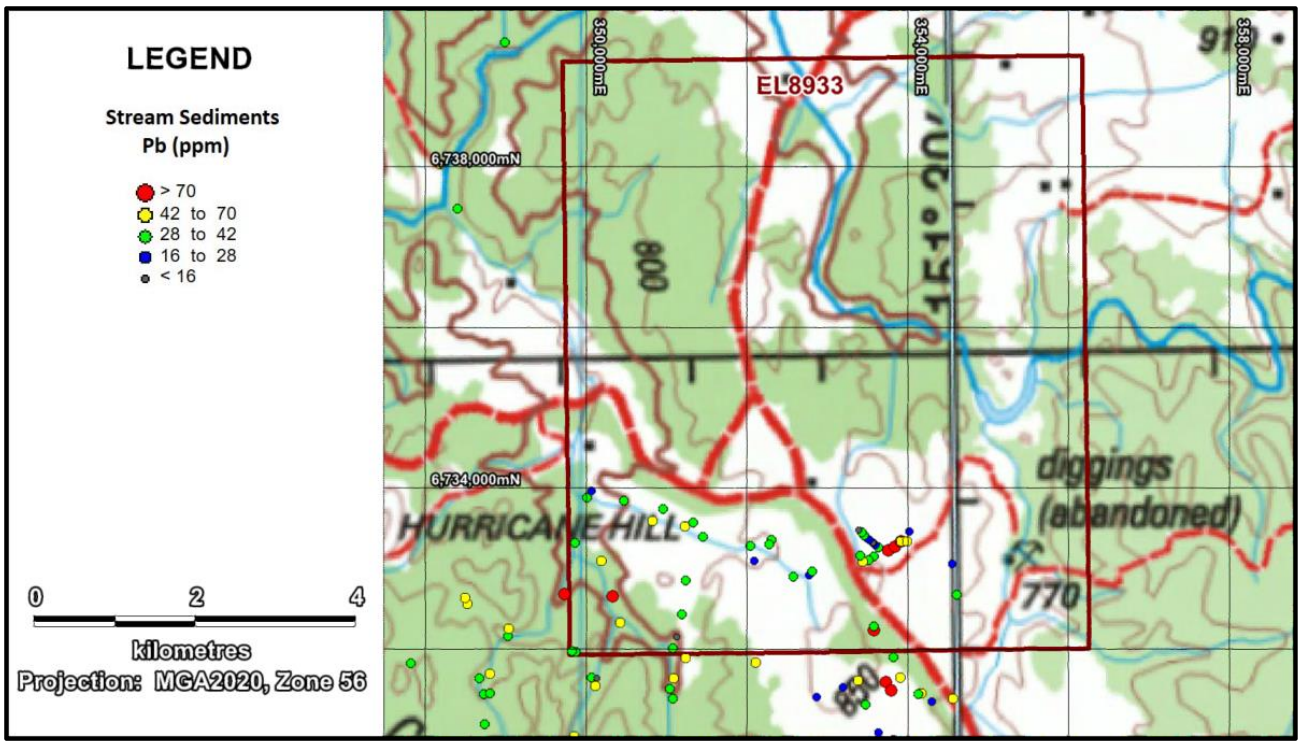

Figure 14: EL8933, historical stream sediment results – Pb (ppm)

CRA conducted grid soil sampling along several local grids over the Wellingrove, Tangoa and Tangoa West Prospects (Cotton, 1984). Unfortunately, the sample location plans contain insufficient reference points to enable them to be georeferenced in a standard map datum and assay results were presented in exploration reports as hand-written sample ledgers. Compilation into a digital database has not been undertaken. Only minor Pb-Zn anomalies were defined by the soil sampling, mostly on single lines (English, 1979b; English, 1981a).

SML undertook limited soil sampling over the northern extension of the Lucky Lucy prospect during 2008 (70 samples). The results showed encouraging values, with several samples recording >400ppm Pb, suggesting a north-trending extension of the mineralisation (Elliott, 2009). They also collected 17 rock chip

samples, seven of which returned significant assays for silver, lead, zinc and copper (Figure 15). The annual report did not describe the sampling methodology, but it is assumed to have been selective sampling of visible mineralisation / veining.

Lode Resources collected 20 rock chip samples from the Webbs Consols project area during 2020, mostly from the Lucky Lucy prospect and extensions to the north (Figure 15). Of the 20 samples, 14 reported assays greater than 0.1% lead and 3 reported assays greater than 1% lead, with associated high silver (> 20 ppm Ag) and arsenic (up to 7% As) values. Details of the sampling are not available, but they are assumed to have been selective sampling of visible mineralisation / veining.

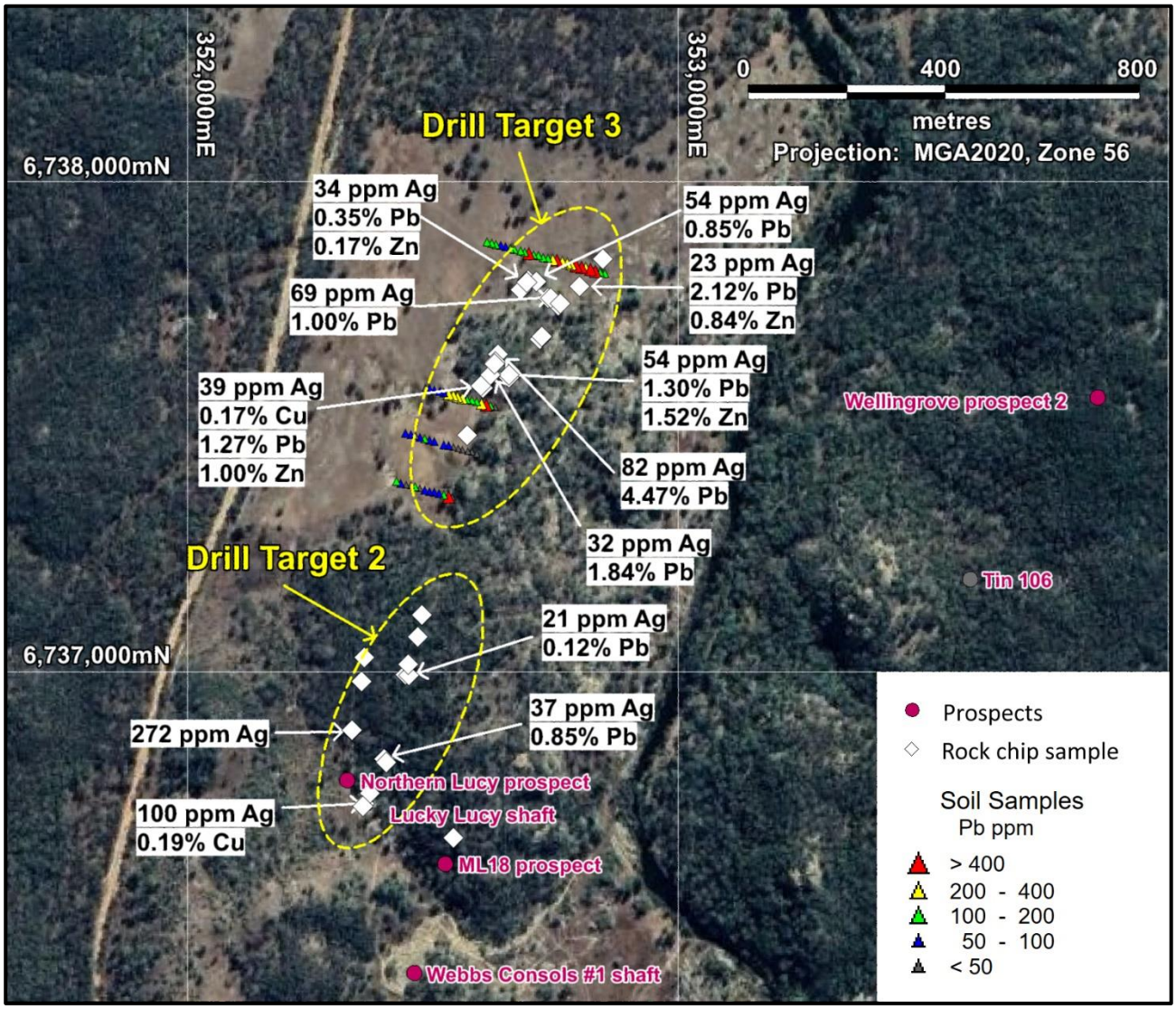

Figure 15: Lucky Lucy northern extension, soil & rock chip sampling

7.6. GEOPHYSICS

CRA completed Induced Polarisation (IP), Electromagnetics (EM) and magnetics surveys over several grids covering the Webbs Consols, Wellingrove and Tangoa Prospects. Dipole-dipole IP gave consistently good

chargeability anomalies in the vicinity of mineralisation, but magnetics and EM methods were ineffective (Cotton, 1984).

SML completed IP surveys covering the main Webbs Consols line of lode and areas to the north (Figure 16, Figure 17). The first phase of the program identified several discreet chargeability anomalies outside of known zones of mineralisation. Interpretation of the modelled data defined two main zones of anomalous chargeability response up to five times background and two lesser anomalies (James, 2007). These anomalies may reflect zones of alteration containing disseminated sulphides. The northeasterly trend of the Lucky Lucy Anomaly 1 is unusual as it is oblique to the dominant N-S and NW-SE structures in the area (McClatchie, 2005).

Modelling of the IP data has been undertaken by Lode Resources. Chargeability and apparent resistivity profiles along Line 1400N, through the middle of the Lucky Lucy Anomaly 1, indicate a broad near surface zone (Figure 17).

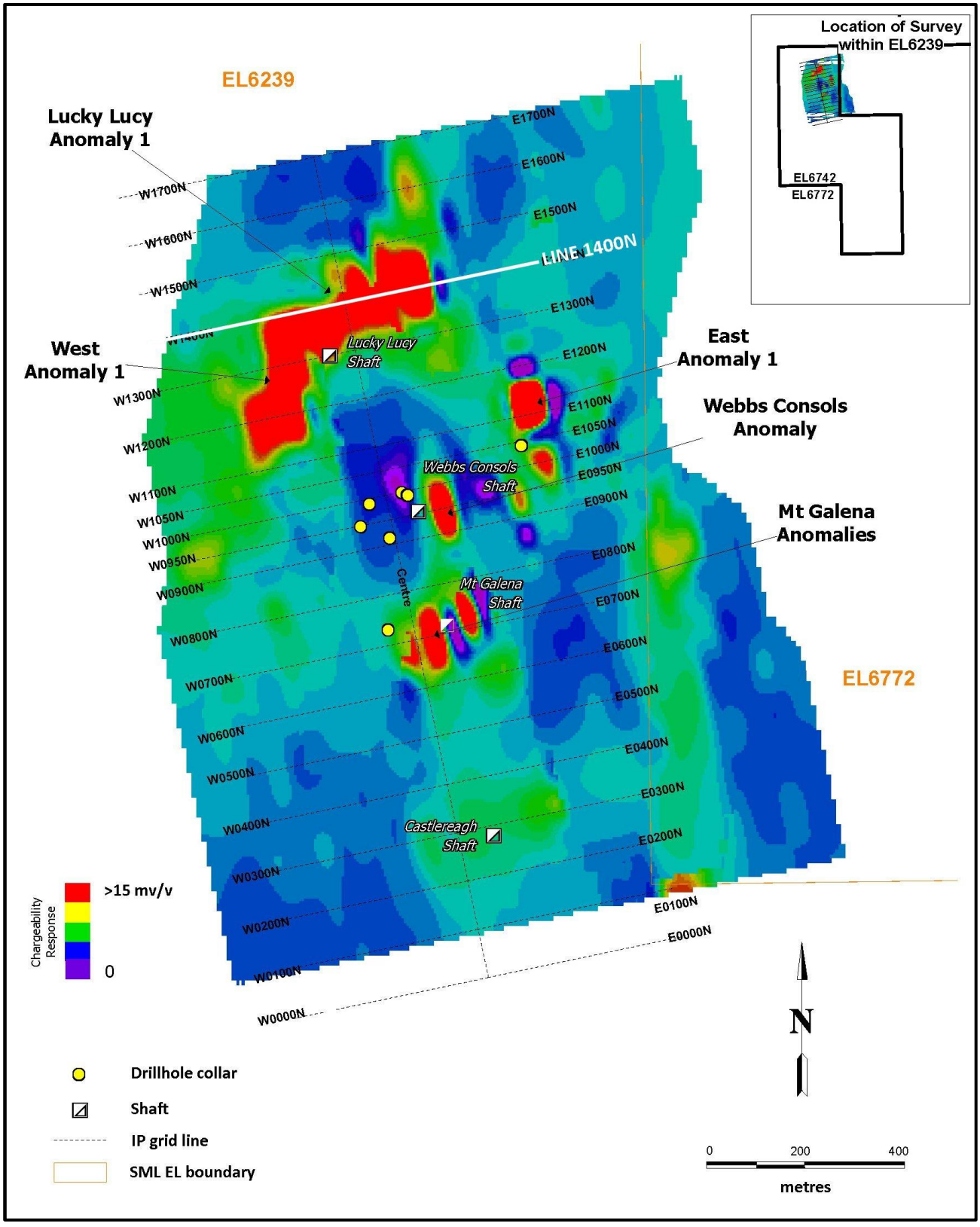

Figure 16: Silver Mines IP anomalies

Source: Modified from Elliott, 2008; Grid coordinates not shown on original map

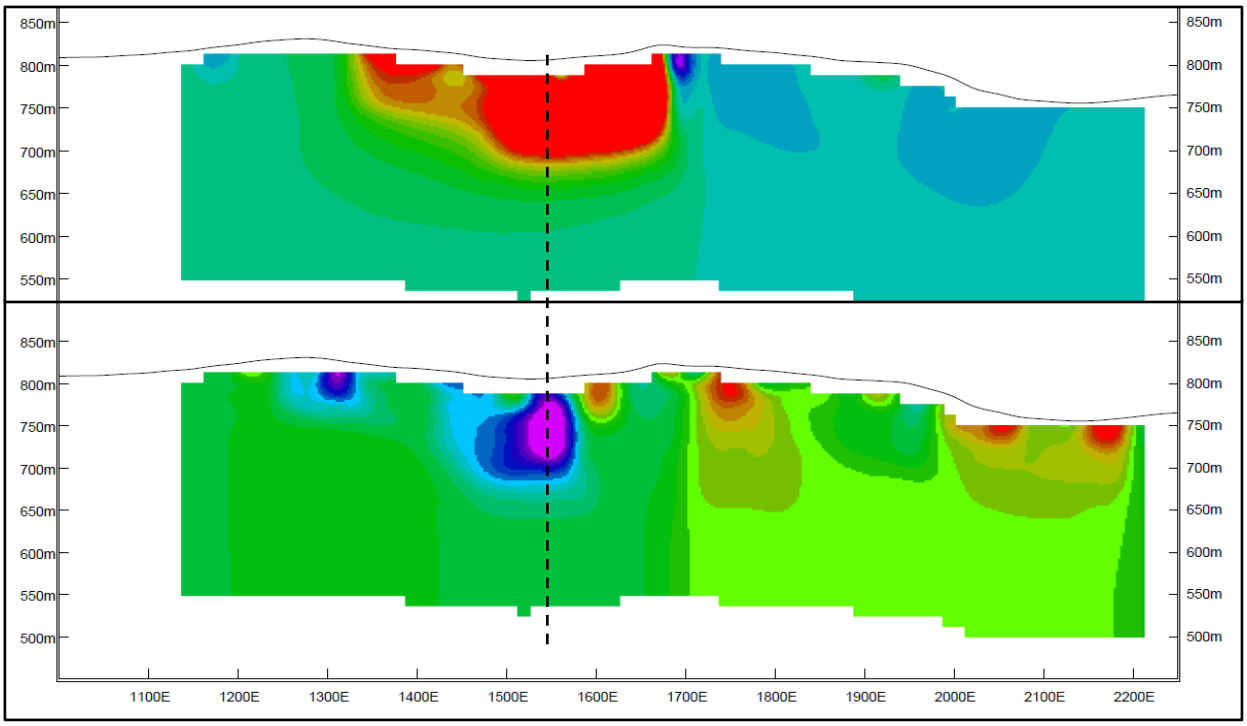

Figure 17: Modelled IP Chargeability (top) and Apparent Resistivity (bottom) on Line 1400N

Source: Lode Resources

7.7. Drilling

Drilling programs on the Webbs Consol Prospect are detailed in Table 8 and shown in Figure 18, with CRA drillhole collars in red and SML drilling in blue.

CRA Exploration

CRA completed several drilling programs on the Webbs Consols, Wellingrove and Tangoa Prospects (Table 8). Apart from the diamond drillholes, the other drillholes are referred to in the CRA reports as "percussion drilling".

Summary drillhole assay intervals, derived from the CRA reports, are listed in Table 9. The one diamond drillhole that targeted the down-dip extension of the Webbs Consols occurrence (DDH 79WC1) intersected only a 0.5m width of disseminated sphalerite and chalcopyrite mineralisation. However, this drillhole may have missed the lode extension as mine records state that the mineralisation in the lower levels of the occurrence (at the 190' / 60m Level) dips steeply (~75°) to the west (Figure 19) (Phipps, 1956).

At the Wellingrove prospect, percussion and diamond core drilling intersected shallow low-grade base metal mineralisation with a deeper intersection in the diamond core drillhole 78WPC6 (Figure 20) (English, 1979b).

HOLE_ID	East MGA20	North MGA20	RL	Azim MGA20	Dip	Length (m)	Prospect	Type	Year drilled	EL No.	Company
78WP1	353802	6734714	786	293	-60	42	Wellingrove	OP	1978	EL1079	CRA
78WP2	353848	6734847	783	292	-60	38	Wellingrove	OP	1978	EL1079	CRA
78WP3	353891	6735044	781	291	-60	50	Wellingrove	OP	1978	EL1079	CRA
78WPC4	353899	6735148	775	283	-53.5	50	Wellingrove	OP	1978	EL1079	CRA
78WPC5	353942	6735400	763	286	-60	50	Wellingrove	OP	1978	EL1079	CRA
78WPC6	353931	6734772	791	291	-65	237.7	Wellingrove	OP/DD	1978	EL1079	CRA
79WC1	352569	6736342	779	292	-60	241.9	Webbs Consols	DD	1979	EL1079	CRA
PD80W7	353978	6735493	760	291	-60	83	Wellingrove	OP	1980	EL1079	CRA
PD80W8	353807	6735773	754	291	-60	53	Wellingrove	OP	1980	EL1079	CRA
PD80W9	353612	6734680	802	291	-60	23	Wellingrove	OP	1980	EL1079	CRA
DD81W10	353869	6735963	747	291	-45	187	Wellingrove	DD	1981	EL1079	CRA
PD80T1	353754	6733155	846	286	-60	83	Tangoa	OP	1980	EL1689	CRA
PD80T2	353702	6733162	847	281	-60	41	Tangoa	OP	1980	EL1689	CRA
PD80T3	353708	6733059	845	283	-60	59	Tangoa	OP	1980	EL1689	CRA
PD80T4	353762	6733307	841	281	-60	107	Tangoa	OP	1980	EL1689	CRA
PD80T5	353746	6733115	846	281	-60	95	Tangoa	OP	1980	EL1689	CRA
DD80T6	353826	6733145	842	281	-53	252	Tangoa	DD	1980	EL1689	CRA
DD81T7	353826	6733145	842	281	-55	3.3	Tangoa	DD	1981	EL1689	CRA
DD81T8	353829	6733196	841	281	-55	217	Tangoa	DD	1981	EL1689	CRA
DD81T9	353817	6733248	841	281	-55	205	Tangoa	DD	1981	EL1689	CRA
DD82T10	353926	6733233	834	281	-62	426	Tangoa	DD	1982	EL1689	CRA
SML001	352483	6736453	762	291	-59	102	Webbs Consols	RC	2006	EL6239	SML
SML002	352493	6736448	763	292	-60	42	Webbs Consols	RC	2006	EL6239	SML
SML003	352495	6736447	763	289	-77	42	Webbs Consols	RC	2006	EL6239	SML
RC004	352417	6736426	769	146	-61	120	Webbs Consols	RC	2008	EL6239	SML
RC006	352436	6736374	771	030	-68	128	Webbs Consols	RC	2008	EL6239	SML

HOLE_ID	East MGA20	North MGA20	RL	Azim MGA20	Dip	Length (m)	Prospect	Type	Year drilled	EL No.	Company
RC008	352422	6736233	772	096	-36	90	Webbs Consols	RC	2008	EL6239	SML
RC009	352402	6736377	768	087	-62	111	Webbs Consols	RC	2008	EL6239	SML
RC010	352697	6736540	753	314	-46	99	Webbs Consols	RC	2008	EL6239	SML

Table 8: Historical Drillholes on EL8933

Note: Collar coordinates converted from lat / longs in GSNSW database; RL values for CRA drillholes derived from Google Earth

Type: OP = Open hole percussion; DD = Diamond core drillhole; RC = Reverse Circulation percussion

Companies: CRA = CRA Exploration; SML = Silver Mines Limited

HOLE_ID	Prospect	Depth From	Thickness (m)	Pb %	Zn %	Ag ppm
78WP1	Wellingrove	16	2	1.0	0.95	6
78WP1	Wellingrove	26	2	1.2	1.2	11
78WP2	Wellingrove	29	6	1.0	0.9	4
78WP3	Wellingrove	30	6	1.3	1.3	25
78WPC4	Wellingrove	46.5	2	2.4	2.7	22
78WPC6	Wellingrove	212	4	1.8	1.5	9
PD80T2	Tangoa	53	30	3.2	3.4	13
PD80T3	Tangoa	19	2	1.0	1.0	8
PD80T5	Tangoa	77	6	1.5	1.5	6
DD81T8	Tangoa	166	3.8	10.3	7.4	75

Table 9: CRA drilling, significant mineralisation intervals

Sources: English, 1979a, English, 1979b, Matthias, 1982

Note: Intervals not listed did not contain significant mineralisation



Figure 18: Webbs Consols Prospect drilling with better grade intersections

At the Wellingrove prospect, CRA's RC and diamond core drilling intersected shallow low-grade base metal mineralisation with a deeper intersection in the diamond core drillhole 78WPC6 (Table 9, Figure 20) English, 1979b. While these results confirm the structural controls on the mineralisation, they do not appear to be significant from an economic point of view.

CRA concluded that the strike and depth limits of a small, massive Pb-Zn sulphide body at the Tangoa prospect had been confidently defined by drilling and downhole EM surveys (Figure 21) (Cotton, 1984). The best intervals of mineralisation were recorded in drillholes DD80T6 (30m @ 3.2% Pb, 3.4% Zn, 13 ppm Ag at the bottom of the drillhole) and DD81T8 (3.8m @ 10.3% Pb, 7.4% Zn, 75 ppm Ag) (Matthias, 1982).

Geos Mining believes that these results are worthy of additional exploration to try to determine down-plunge extensions of the mineralisation.

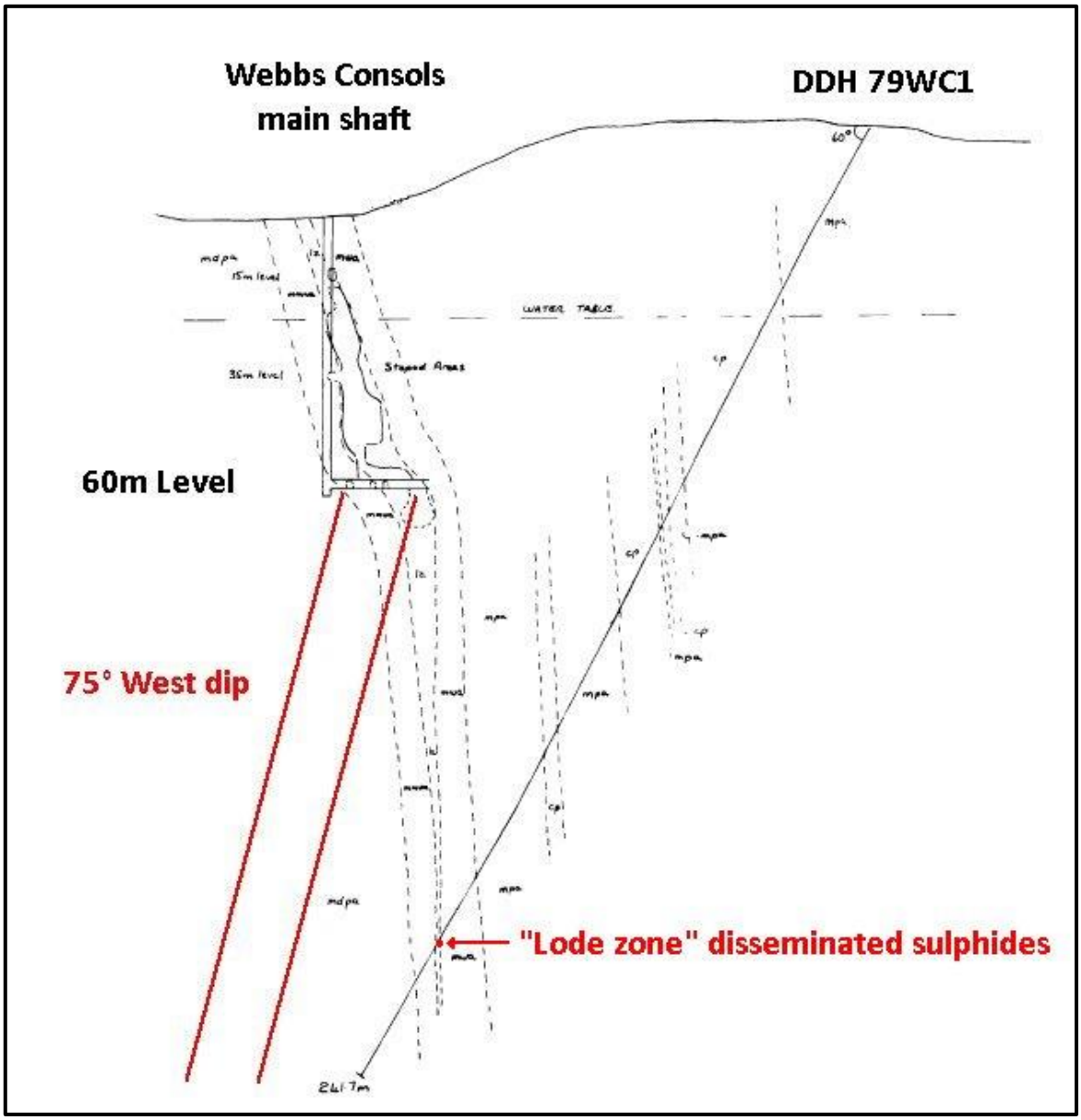

Figure 19: Cross-section of CRA drillhole 79WC1, looking north

Modified from English, 1979b

Silver Mines Limited

SML's initial drilling program in August 2006 consisted of three reverse circulation drillholes (totalling 186m) to test for possible northerly extensions of the Webbs Consols mineralisation and for possible supergene enrichment near the surface James, 2007. Assay results were generally poor, with better grade intersections rarely exceeding 1% Pb+Zn (Table 10, Figure 18). Follow-up drilling in 2008 (5 RC drillholes totalling 548m) also failed to intersect the main body of the Webbs Consols mineralisation.

SML's 3D modelling of the Webbs Consols workings and drillhole traces illustrated that none of the drillholes had tested the plunge of the ore shoot (Figure 22) (Vukovic, 2012).

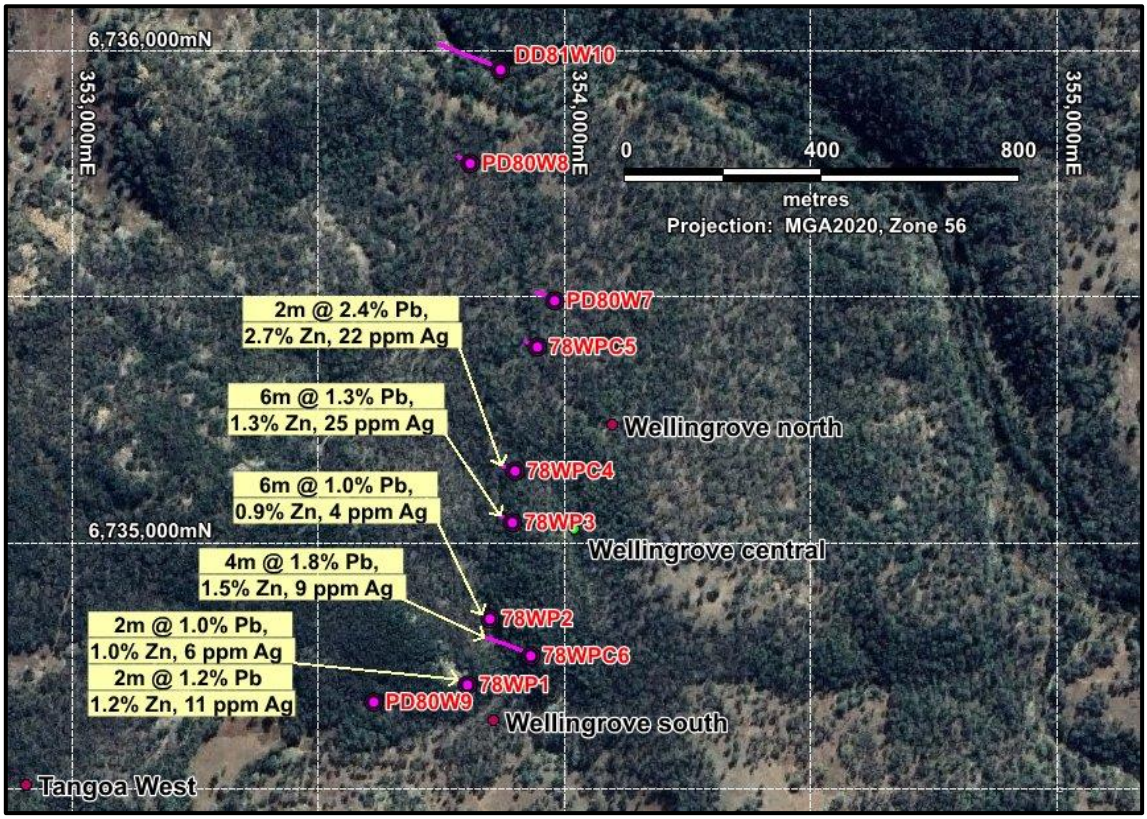

Figure 20: Wellingrove Prospect drilling with significant intersections

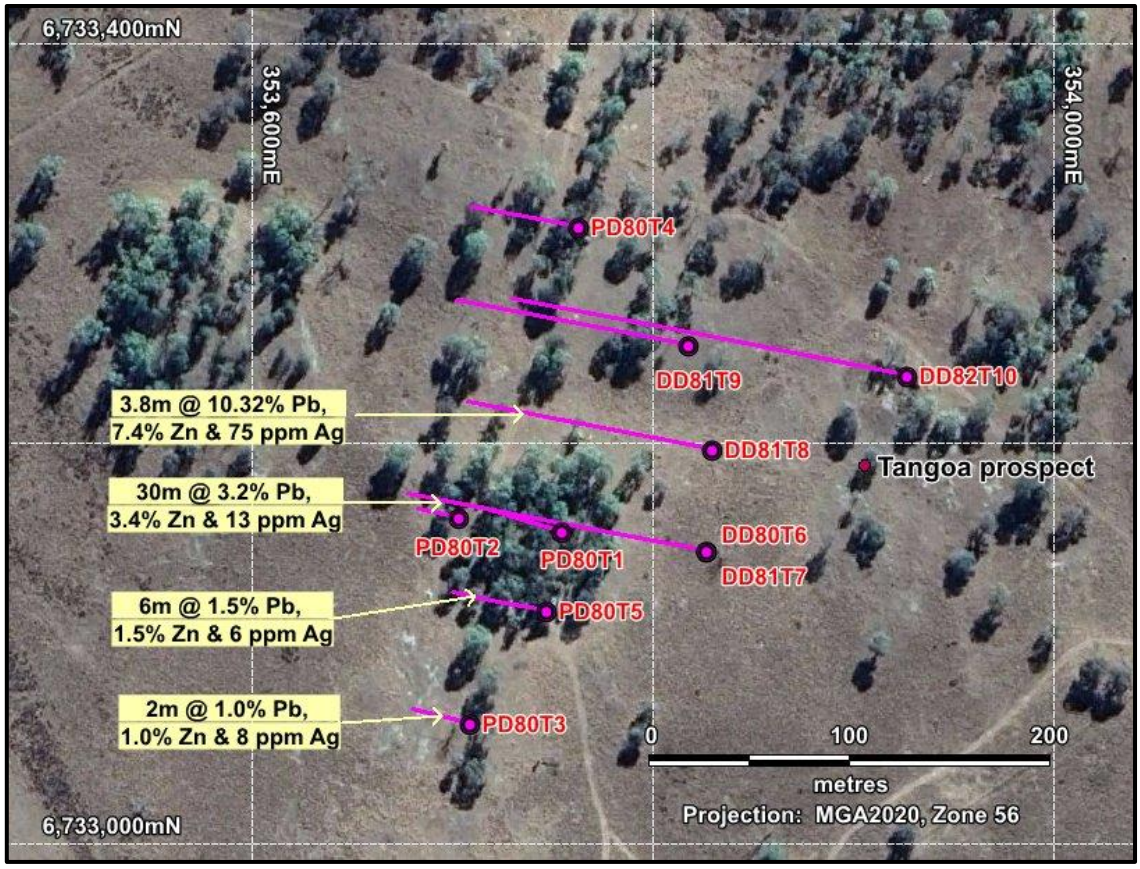

Figure 21: Tangoa Prospect drilling with significant intersections

HOLE_ID	Prospect	Depth From	Thickness (m)	Pb %	Zn %	Ag ppm
SML001	Webbs Consols	2	8	0.78	0.74	6.2
SML003	Webbs Consols	33	8	0.54	0.63	4.8
RC006	Webbs Consols	0	5	0.27	0.12	12.7
RC008	Webbs Consols	69	2	0.22	0.31	5.0

Table 10: SML drilling, best mineralisation intervals

Sources: James, 2007, Elliott, 2008

Note: Intervals not listed did not contain significant mineralisation

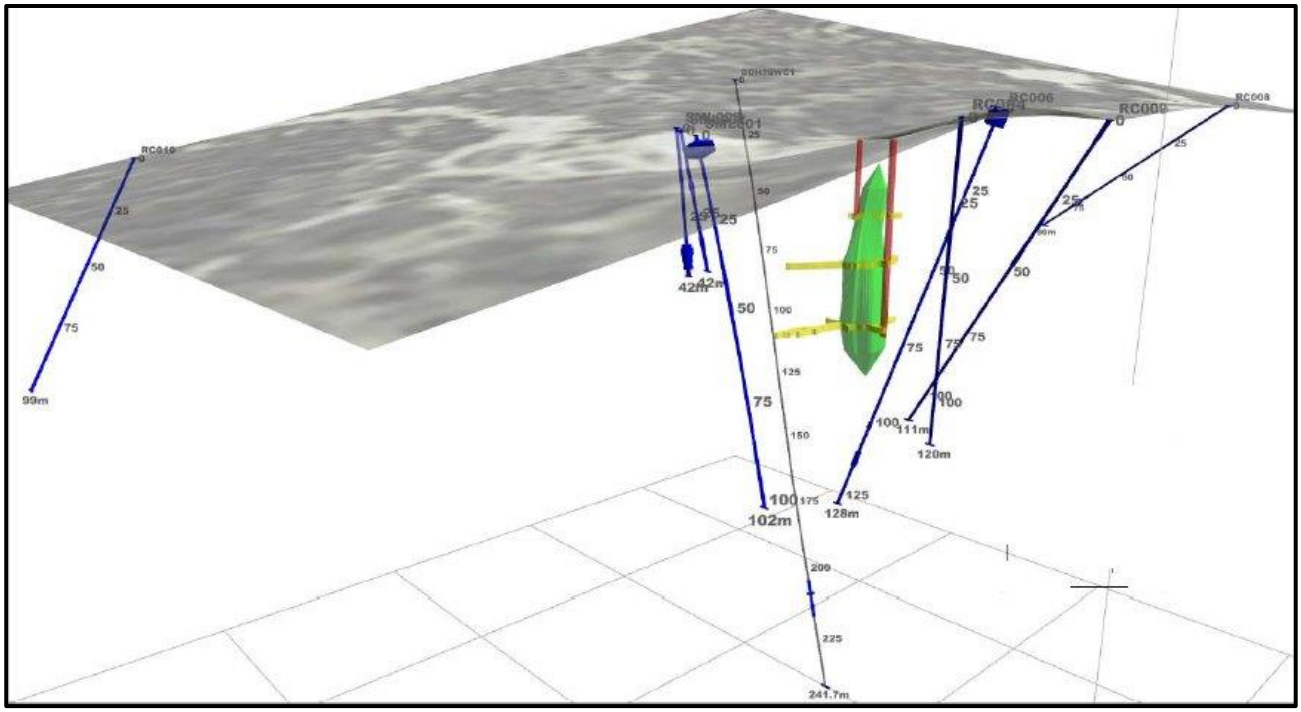

Figure 22: Webbs Consols 3D model, perspective view looking SE

Source: Vukovic, 2012

7.8. Mineral Resources

No Mineral Resources compliant with the JORC Code 2012 have been determined for mineral occurrences within EL8933.

The Metallogenic Study for the Inverell Metallogenic Map (SH/56-05) reported a small tonnage of Pb-Zn-Ag mineralisation at the Tangoa Prospect in a steeply-plunging pipe-like body confined in a N-S trending shear Brown & Stroud, 1997. Due to doubts as to how the tonnage and average grades were determined, we do not consider that this tonnage-grade estimate would meet the requirements of the JORC Code 2012.

7.9. Potential

EL8933 holds potential for discovery and definition of several hydrothermal vein-style silver + base metal (Pb-Zn-Cu) (+ gold) mineralisation forming high-grade sulphide bodies along the junctions of north-trending and northwest-trending structures. Previous mining and exploration have located several discreet bodies along the two main lines of lode: Webbs Consols-Lucky Lucy-Mount Galena, and Wellingrove-Tangoa. Drilling programs by CRA and Silver Mines were designed to test along-strike extensions and failed to intersect the postulated steeply plunging bodies.

The main bodies of mineralisation show strong structural control. Two zones identified by Burke, 2009, are interpreted to occur at the intersections of major structures (Figure 11), but are overlain by Tertiary basalt, and so have probably not been tested by previous exploration. We have named these prospects Tangoa West and Tangoa South, respectively.

Other targets worthy of testing are:

- IP anomalies north of Lucky Lucy, with high grade (Pb-Ag) rock chip samples
- down-plunge extension of the Webbs Consols mineralisation
- down-plunge extension of the Tangoa mineralisation.

Potential tonnages for individual deposits are likely to be small to medium. However, the anticipated high grades make the targets worthy of further exploration, especially if several deposits can be located within close proximity to each other.

7.10. RECOMMENDATIONS

Recommendations for exploration programs for EL8933 are:

- Diamond drilling of the down-plunge extensions of the Webbs Consols mineralisation: 3-4 drillholes totalling ~800m; downhole IP if sufficient mineralisation intersected
- Diamond drilling of the down-plunge extensions of the Tangoa mineralisation: 3-4 drillholes totalling ~800m; downhole IP if sufficient mineralisation intersected
- If the CRA geophysics and geochemistry plans can be georeferenced, digital data entry of IP geophysics and geochemical sampling data
- If required, additional IP surveys to firm up drilling targets in anomalous areas, including the Tangoa West and Tangoa South prospects, and the IP anomaly north of Lucky Lucy
- Diamond drilling of targets defined by the data processing or additional IP surveys.

8. Uralla Project (EL8980)

8.1. Mining History

Gold was discovered at Rocky River, west of Uralla, in September 1851; one of the earliest gold discoveries in the New England region. Further discoveries led to the development of a major alluvial goldfield by November 1852 (McQueen, 2017). Initial production came from shallow alluvial deposits, until the discovery of deep lead deposits beneath Tertiary basalt flows at Mount Jones in 1856. Occurrences of lode gold mineralisation were found in granite and felsic dykes around the Rocky River and worked from the early 1890s. From the early 1900s, dredging of old diggings was undertaken within the Uralla Goldfield. Total estimated gold production from the Rocky River goldfield was at least 4.3t Au (~140,000 ounces), mostly from deep leads (McQueen, 2017).

8.2. Historical Exploration

Recent exploration has primarily targeted large, low-grade intrusion-related gold and tin-tungsten mineralisation. Significant exploration programs for Group 1 minerals are summarised in Table 11.

Tenement	Company	Years	Comments
EL0204	CRA EXPLORATION PTY LTD	1969-1970	Covers 80% of EL8980. Rock chip and stream sediment sampling (1969 samples) for Sn, W.
EL0327	GULLIVER, E	1970-1972	Gold & base metal geochemical sampling at Reedy Creek prospect.
EL0338	NICKEL MINES LIMITED	1970-1971	Covers only eastern third of EL8980.
EL1496	BROKEN HILL METALS NL	1980-1982	Alluvial gold and deep lead search. Churn drilling.
EL2089	KINEX PTY LIMITED	1983-1988	Small block includes Gwydir River alluvial gold prospect. Extensive pitting and costeaning. Preliminary mine planning.
EL2387	LOW, Thomas Ross	1985-1990	Mapping, soil & rock chip sampling Goldsworth mine area. No drilling – access denied Project Geoscience Pty Ltd, 1990.
EL4480	URALLA GOLD PTY LTD	1993-1993	Brief look at alluvial/ deep lead potential.
EL4795	CYPRUS GOLD AUSTRALIA CORPORATION	1995-1997	Stream sediment, soil & rock chip sampling Uralla Goldfield.
EL4886	CYPRUS GOLD AUSTRALIA CORPORATION	1995-1997	Soil & rock chip sampling Uralla goldfield.
EL6219	BANLONA PTY LIMITED	2004-2006	Soil, stream & rock chip sampling. Gold panning.
EL6483	BIACIL HOLDINGS PTY LTD (SOVEREIGN GOLD COMPANY LIMITED)	2005- 2019	Assessment of alluvial gold occurrences. Drilling hard rock mineralisation at Martin Shaft, Frasers Find, Melvaines, Wilsons Creek, Gracie & Vickers prospects. Mapping, costeaning & rock chip & soil sampling. Airborne magnetics / radiometrics.
EL7700	URALLA GOLD PTY LTD	2013-2014	Soil & rock chip sampling.

Table 11: Previous Exploration Licences within the area of EL8980

8.3. GEOLOGICAL SETTING

The EL8980 area lies within the Central Block of the New England Orogen (Figure 23). The main rock units consist of:

- **Sandon Beds** (Upper Devonian - Carboniferous) - Low-grade, regionally metamorphosed, multiply deformed lithic wacke, paraconglomerate, siltstone, mudstone, minor chert, jasper, spilite.
- **Bundarra Supersuite** (Early Permian) – S-type granite plutons, reduced, weakly fractionated.
- **Wandworths Volcanics** (Late Permian) - Undifferentiated felsic volcanic rocks, minor sedimentary rocks and granite. Dominantly ignimbritic rhyolite, rhyodacite (some emplaced as a lava) and dark crystal-lithic tuff; minor dacite, andesite, trachyte; interbedded fine-grained sedimentary rocks
- **Yarrowyck Granodiorite** (Late Permian – Early Triassic) - Weakly zoned, from medium-grained, biotite-hornblende-(pyroxene) I-type granodiorite to fine-grained, leucocratic monzogranite.
- **Uralla Granodiorite** (Late Permian – Early Triassic) - Grey, coarse-grained, approximately equigranular, biotite-hornblende-(pyroxene) I-type granodiorite, with minor monzogranite; finer-grained, porphyritic marginal variant.
- **Manuka Farm Porphyritic Microgranodiorite** (Early Triassic) - Texturally heterogeneous, fine to medium-grained, commonly porphyritic possibly quartz-poor I-type granodiorite–quartz monzodiorite, ranging from pyroxene-dominant to hornblende-biotite dominant ferromagnesian assemblages.
- **Khatoun Tonalite** (Early Triassic) - Medium-grained, equigranular hornblende-biotite-(pyroxene) I-type granodiorite to tonalite, and minor pyroxene tonalite; fine-grained, porphyritic chilled margin.

The Uralla Granodiorite, and associated minor plutons and felsic dykes, were emplaced in a tectonic setting that is composed of many elements of Reduced IRGS deposits and are believed to be responsible for auriferous mineralisation systems within the Uralla Goldfield (Leu & Roberton, 2011). Characteristics diagnostic of an IRGS were also determined from petrographic studies and include anomalous bismuth, gold-bearing sheeted veins, sericitic alteration and tourmalinisation (Ashley, 2011). Ashley also noted that the nature of the alteration-mineralisation in the drill core samples studied illustrated affinities of the Uralla gold system with both orogenic and intrusion-related systems.

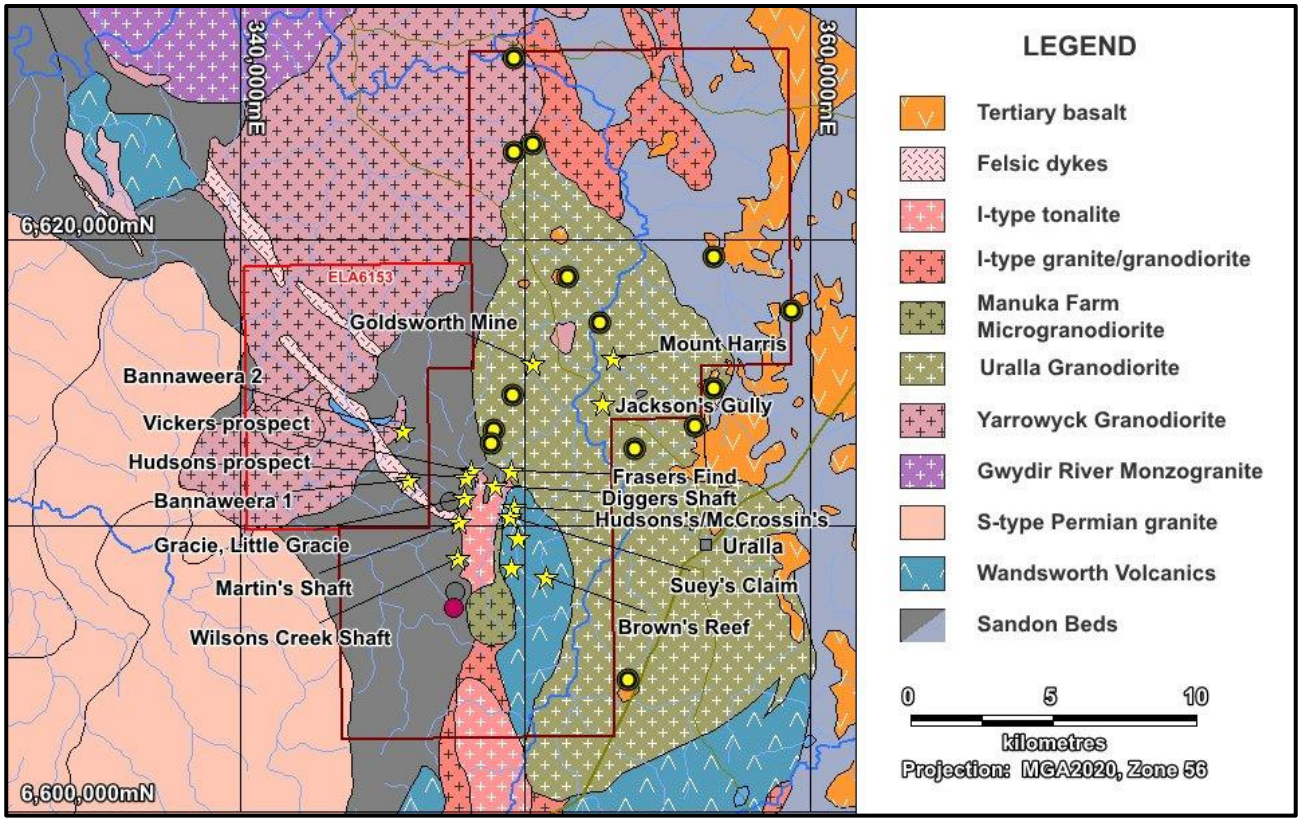

Figure 23: EL8980 Geological Setting and hard rock Mineral Deposits

Red outline = EL9087 Uralla West

8.4. Mineralisation Styles

The NSW mineral occurrence database NSW Government Spatial Services, 2020 records a total of 26 historical workings within the area covered by EL8980 (Figure 23). All are small in size and comprise a mix of underground shafts and drives, small open pits and gougings. Primary commodities sought have been gold ± copper ± manganese.

Previous explorers have commented on aspects of these occurrences, although we note that most early exploration programs were focussed on the alluvial and deep lead gold workings.

Sovereign Gold Company Limited determined that many of the hard rock occurrences have characteristics diagnostic of reduced Intrusive Related Gold Systems (IRGS), analogous to the Tintina Gold Province of Alaska and Yukon (Leu, 2010):

- Located inboard of a convergent plate boundary
- Intrusions emplaced after the principal orogen-forming events into the accretionary deformed trench complex metasedimentary rocks and overlying volcanics
- Late Permian to Early Triassic tectonism in a tensional tectonic setting, with several related thermal events.

Figure 24 shows a zonation model of reduced Intrusion-Related Gold Systems with Sovereign Gold's interpreted positions of the various prospects within EL8980 and other significant occurrences. The diagram was taken from Leu & Roberton, 2011, which was a modification from Lang, et al., 2000.

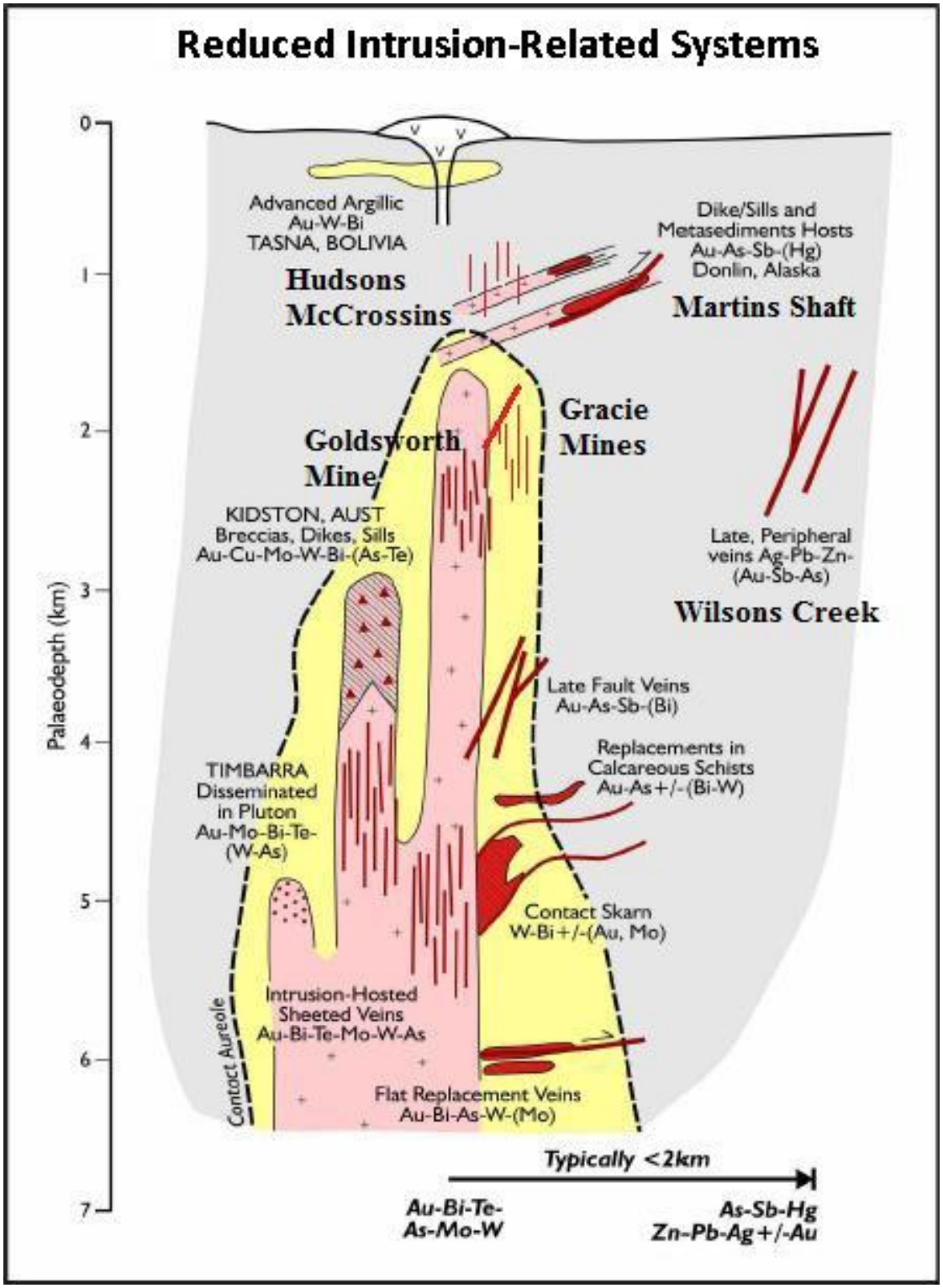

Figure 24: Reduced Intrusion-Related Gold System model

Source: Leu & Robertson, 2011

8.5. PROSPECTS

ROCKY RIVER - URALLA ALLUVIALS

Alluvial and deep lead occurrences were worked for gold in the 1880s (Harrington, et al., 1972) and apparently almost 4,000 miners were present in the period 1856 to 1895. In 1856, output was reportedly 40,000 ounces gold, although this rapidly reduced in subsequent years (Gentle, 1982). The first deep lead was discovered in 1856 at what is now known as Mt Jones and led to further discoveries at Mt Welsh (Cozens, 1985). Numerous shafts were sunk through the basalt into the leads with adits driven on the gravels from the hillsides (Gentle, 1982). Recent alluvial deposits comprise variable size gravels, cobbles and boulders, whereas deep leads comprise sands and gravels at the base of overlying Tertiary basalts. Most occur in the Rocky River with lesser amounts in the Wilson's Creek and Cabbage Tree Gully (Project Geoscience Pty Ltd, 1988). In 1900 a dredge was set up, with returns reported in 1905 as "4 oz 3 dwt 19 gr Au/ton sand" (~130 g/t Au) and "6 dwt 20 gr Ag/ton" (~12 g/t Ag) (Cozens, 1985). However, Tucker, 1996, reported that dredging of the Gwydir River during the periods 1900-1902, 1910-1914 and 1929-1933 "*appears to have been financially unsuccessful*".

Project Geoscience Pty Ltd, 1988, noted that remobilised alluvials have been mined at Mt Welsh and Post Office Gully. They also quoted results from Broken Hill Metals NL, whose testing "indicated 100,000 to 200,000 tonne of eluvial material with a significant number of drill samples returning 0.1-0.6g gold per cubic metre". Leu, 2006, commented that the gold sourced from the Uralla Goldfield, including exhumed Tertiary deep leads, has undergone dilution with barren sediments in depositional sites in the vicinity of the Rocky River/ Gwydir River junction resulting in grades that were not likely to be economic to recover (pre-2006).

The source of the alluvial/ eluvial/ deep lead gold is enigmatic, with explorers such as Tucker, 1996, expressing the view that "the lode-type deposits are considered to be too small to be the source of the alluvial gold".

HARD-ROCK MINES

By 1895, several quartz reefs had been discovered and were being worked (Cozens, 1985). Some workers considered that hard-rock mineralisation in the area "is very small and consists chiefly of narrow quartz lodes (carrying pyrite ± stibnite ± arsenopyrite and gold)" (Tucker, 1996).

Collectively, the data indicates the existence of a substantial intrusion-related gold system (Leu & Murphy, 2008). This interpretation allowed Sovereign Gold to greatly expand its exploration focus and develop a genetic model for the various local mineralisation styles observed within EL8980 (Figure 24).

Exploration by Sovereign Gold showed that most of the major hard rock gold mines plot on a magnetic linear feature several kilometres long (Figure 25) and that many gold occurrences are linked to highly fractionated minor plutons and quartz-exsolved felsic dykes.

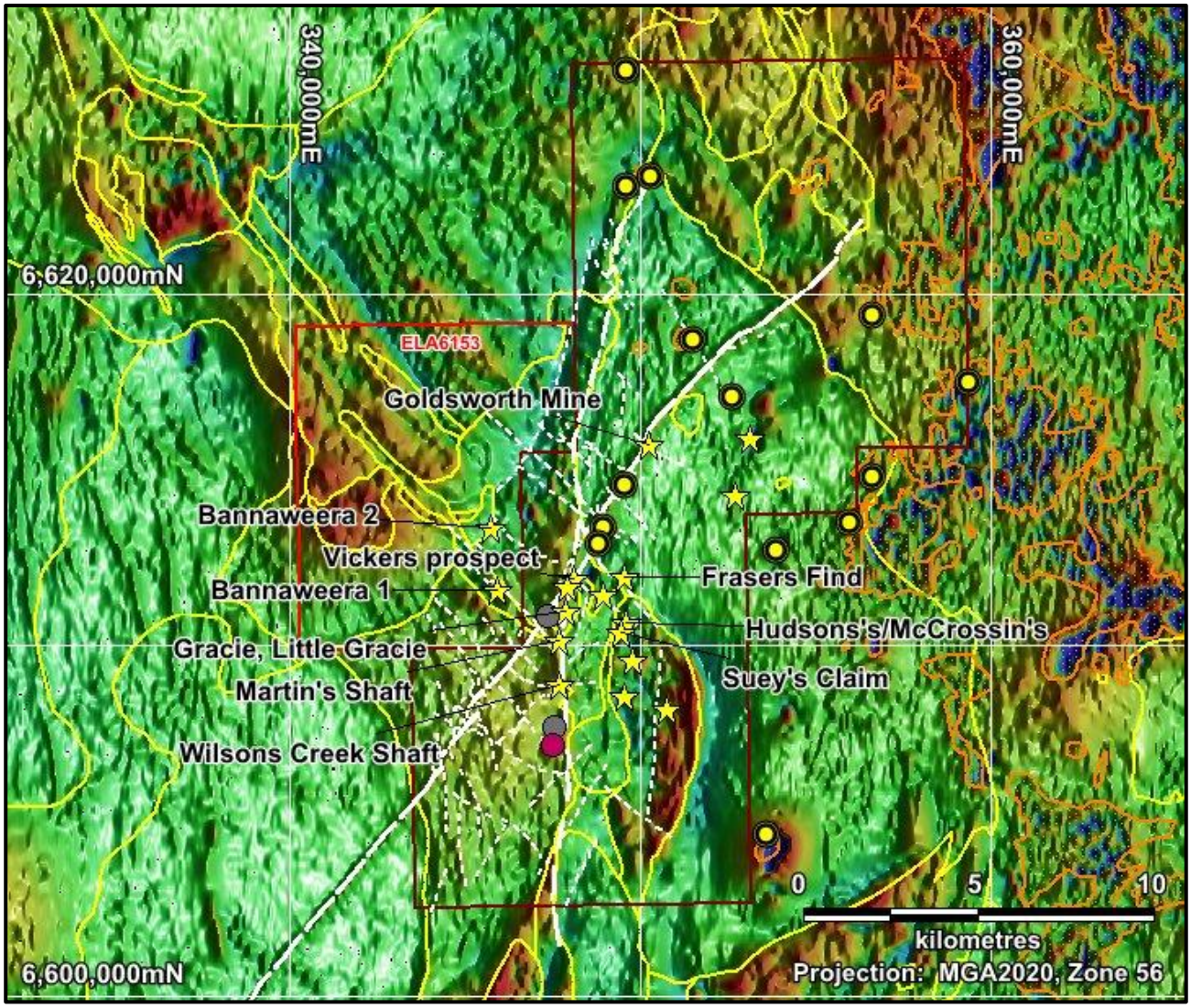

Figure 25: Regional Magnetics with Linear Structures & Mineral Occurrences in EL8980

EL9087 in red outline; Outline of major geological units in yellow; Tertiary basalt in orange stipple

GOLDSWORTH MINE

The GSNSW mineral occurrences database describes the Goldsworth Mine as shafts and underground drives over a 200m length trending NE. "Discovered by N Crapp in 1895, the workings comprised two drive levels, at 56m and 89m depths. Total length of drives approximately 200m. Width of workings approximately 30m. Two underlay shafts developed east of the main shaft. Production by the Goldworth Syndicate (1911), the Goldworth Gold Mines Ltd (1911-1914), Robert Evan (1911-1913), F Krippner (1911-1913), W J Roberts (1911-1915), Wheeler and party (1918)". The mineralisation was described in the GSNSW mineral occurrences database as "crustified thin veinlets in highly altered granite with sericitized feldspars and ferromagnesians. Sulphides introduced into alteration zone flanking veins. Pyrite and minor stibnite and arsenopyrite in veins and also between veins. Some crustified veins are vughy. Thicker veins enclose fragments of altered granite. Veins either of magmatic hydrothermal origin or derived from meta-hydrothermal fluids. Quartz vein in monzogranite".

The main shaft in this mine reached a depth of 90m with levels cut at 60m and 90m depth. The lode averaged 1.3m width and was driven on for 152m (Gentle, 1982). Recorded production was 5.98kg gold (~193 ounces gold) with minor amounts of stibnite (antimony sulphide mineral) and arsenopyrite (arsenic sulphide mineral) (Jordt, 1988). The potential of this prospect was recognised by Tucker, 1996a, who considered that the prospect had not been drill tested and warranted further exploration.

The Goldsworth Mine and Vickers Prospect both occur on the regional magnetic linear known as the 'Old Bonanza Dyke' (Figure 25). It is potentially a major regional conduit for late-stage gold-bearing fluids and potential exists for other gold occurrences similar to those previously discovered. Significantly, the mineralise material in waste dumps of the Goldsworth Mine consists of close spaced (10-40mm), narrow (up to 10-20mm wide), ferruginous/sulphidic quartz veins in granite with disseminated mineralisation between veins. Magmatically emplaced late stage gold within the carapace of a pluton is a classic, diagnostic IRGS characteristic.

VICKERS PROSPECT

Vickers Prospect is located along a major NE-trending structure, termed the 'Bonanza Dyke', 1.85km north-east of the gold mineralisation at Martins Shaft. Seven shallow reverse circulation drillholes were completed by Sovereign Gold at Vickers Prospect with the depth of most holes ranging from 51-69 metres. All holes intersected widespread phyllic alteration and some anomalous gold. Mineralisation is associated with the long conduit of the main magnetic linear. Anomalous gold was encountered in some intervals of the other holes associated with silica flooding and variable sulphides (pyrite dominant, lesser arsenopyrite) and alteration veining.

HUDSON'S PROSPECT

The Hudson's Prospect is located along the Bonanza Dyke to the south of Vickers Prospect.

The Hudson's workings are described in the GSNSW mineral occurrences database as "three shafts over a length of 70m, in Sandon Beds. Northernmost shaft has been bulldozed in. Line of Lode offset to the west from the Gracie and Little Gracie workings approximately 400m north. Shafts sunk on hornfelsed creamy white, moderately fractured quartzites that are slightly Fe stained and gossanous on larger partings after sulphides" (MinView, 2017).



Photo 3: Mineralisation at Hudson's prospect

GRACIE / LITTLE GRACIE

The Gracie mine was referred to between the years 1897 to 1913, although Gentle, 1982, observed "no evidence of extensive underground workings". The occurrence appears to be a "more traditional quartz vein type in altered sediments with workings extending over 100m" (Gentle, 1982).

The GSNSW mineral occurrences database (MinView, 2017) describes the Gracie / Little Gracie workings as "a series of shafts over 200m along N-S direction. Worked to at least 20m along vein striking 023° dipping 84° W. Another shaft sunk on vein striking 010°, dipping subvertically E. Another shaft sunk on vein striking 013°, dipping 81° E. The two mines seem to occur at the junction of a northerly trending granite dyke, shear zone and possible cross fault trending 060°. There is euhedral pyrite mineralization in medium to coarse-grained quartzites in the mine area".



Photo 4: Gracie Prospect workings

Martin's Shaft

Gentle, 1982, reported that the mine's namesake developed a "low grade auriferous dyke-like formation" with the "load [sic] 25 feet in width at the 50 foot level". The historical workings consisted of a shaft to 30m depth sunk (now filled in) on sheeted quartz-sulphide-carbonate veins within a granitic dyke with a siliceous margin.

The mineralised vein system strikes 070° and dips steeply to the south. The individual veins range up to 0.6m width, but average around 0.15m.

It has been interpreted that the dyke acted as a brittle host rock that enabled intrusion of magmatic gold-bearing fluids. Associated sulphide mineralisation consists of pyrite, arsenopyrite and stibnite (Leu, et al., 2012).

Wilson's Creek

The mineralisation at Wilson's Creek is associated with a shear zone breccia. A series of pits/shallow shafts on this structure establishes that it is at least 660 metres long. The main mineralised shear zone extends

through metasediments of the Sandon Beds and also impacts some late-stage porphyritic quartz microdiorite dykes.

Fraser's Find

These workings extended to 20m depth over a presumed length of ~100m, following a 0.6-0.9m wide quartz vein containing a 23-37cm wide auriferous arsenic-rich lode. Only 6t ore was mined with grades ranging from 27g/t Au to 222g/t Au (Jordt, 1988). Apparently, the refractory nature of the mineralisation hampered recovery of the gold as evidenced by a sample taken by the Department of Mineral Resources that assayed 81g/t gold, 392g/t silver, 1% lead and 19% arsenic (Jordt, 1988). Later investigation by Sovereign Gold concluded that the mineralised structure extends for more than 250m after the company located the 'lost' Fraser's Find shaft. The mineralisation consists of a central high-grade gold-bearing vein within altered Uralla Granodiorite that hosts further, juxtaposed disseminated mineralisation (Leu, et al., 2012).

Diggers Shaft

Sovereign Gold located a previously unrecorded mine shaft 1km southwest from Fraser's Find. Samples of sheeted veins collected from waste piles beside Diggers Shaft assayed up to 2.39ppm gold, 3.76oz/t (117ppm) silver and 0.85% lead (Leu, et al., 2012). The minerals pyrite, arsenopyrite, chalcopyrite and tourmaline were noted at the waste pile surrounding the shaft.

McCrossin's Workings

The McCrossin's workings (sometimes referred to as the Hudson's-McCrossin's workings) were developed on narrow (most <15mm wide) sheeted veins within a disseminated mineralised system. Several shafts and pits occur over a strike length of 600m (Jordt, 1988). Investigations and sampling by Sovereign Gold indicated that the controlling structure (including Suey's Claim) has a strike length of 900 metres and a mineralised width of at least from 25–65m in places. They also reported the discovery of late stage, felsic dykes with disseminated sulphide, essentially identical to that collected from waste dumps at Martin's Shaft (Leu, 2010).

Suey's Claim

Suey's Claim consists of an up to 1 metre wide felsite dyke that contained grades up to 2.1 oz/ton gold (65 g/t Au). It also contained bunches of high grade stibnite up to 1.5 metres high x 0.38 metres wide x 3 metres long. These workings are possibly part of a significant mineralised structure and the considerable strike length provides a large target for the discovery of bulk open pittable sheeted vein gold mineralisation.

8.6. Surface Geochemistry

Regional Sampling

Preskome Pty Ltd completed a panned concentrate survey in 1988 and returned evidence of heavy minerals at Rocky River (Jordt, 1988). The company also investigated the alluvial gold potential using hand augering followed by panning of the basal material to determine the qualitative nature of the mineralisation. The company reported fine gold in almost all samples with "two to seven counts per pan" (Project Geoscience Pty Ltd, 1988).

Stream sediment sampling carried out by Cyprus Gold in 1996 highlighted the area between Wilson's Creek, Martin's Shaft and Gracie Mine but the company appeared to dismiss the results as "the product of known vein-type mineralisation in the area" and no follow up was reported (Tucker, 1996).

Paradigm Gold completed stream sediment, soil and rock chip sampling surveys and of note is the occurrence of gold anomalous samples just east of Jackson's Gully on the boundary of EL8980. Here, rock chip silcrete samples returned 0.12ppm gold and 0.25ppm gold (Rowley, et al., 2005).

Uralla Prospects

Several geochemical programs have been conducted over individual prospects surrounding historical workings within EL8980. Details of the results of the programs are discussed in the following sections. Of note, many rock chip samples have returned high grade gold values, with associated high arsenic values, and these are tabulated in Table 12.

SAMPLE ID	East MGA94	North MGA94	Prospect	Au ppm	Ag ppm	As ppm	Company
R43	348919	6611437	Diggers	2.60	114.0	10,000	Lode
S216	348919	6611433	Diggers	2.39	114.0	31,300	Sovereign Gold
S217	348919	6611433	Diggers	2.00	110.0	24,700	Sovereign Gold
S218	348919	6611433	Diggers	2.06	117.0	26,600	Sovereign Gold
S219	348919	6611433	Diggers	1.42	23.8	31,500	Sovereign Gold
S221	348919	6611433	Diggers	1.67	4.7	33,400	Sovereign Gold
FF5A	349554	6612104	Fraser's	21.10	1110.0	172,000	Sovereign Gold
FF5B	349554	6612104	Fraser's	76.90	287.0	78,500	Sovereign Gold
FF5C	349554	6612104	Fraser's	18.10	214.0	107,000	Sovereign Gold
FF5D	349554	6612104	Fraser's	20.40	265.0	168,500	Sovereign Gold
FF5E	349554	6612104	Fraser's	17.85	340.0	122,500	Sovereign Gold
FF5F	349554	6612104	Fraser's	24.90	333.0	129,500	Sovereign Gold
FS3C	349594	6612128	Fraser's	4.00	2.4	45,700	Sovereign Gold
FS3D	349594	6612128	Fraser's	3.43	5.9	25,300	Sovereign Gold
FS9B	349491	6612071	Fraser's	2.11	12.2	36,900	Sovereign Gold
R23	349669	6612160	Fraser's	36.30	144.0	105,000	Lode
R24	349593	6612127	Fraser's	1.25	1.6	8,950	Lode

SAMPLE ID	East MGA94	North MGA94	Prospect	Au ppm	Ag ppm	As ppm	Company
S581	349710	6612179	Fraser's	75.20	1790.0	150,000	Sovereign Gold
R28	347587	6611097	Gracie	8.03	1.4	9,470	Lode
R4	347587	6611098	Gracie	5.29	0.5	6,880	Lode
R52	347685	6611110	Gracie	6.38	0.3	7,020	Lode
R54	347656	6611108	Gracie	4.12	0.6	6,250	Lode
S580	347879	6610937	Gracie	1.03	4.0	4,950	Sovereign Gold
H12	347747	6611595	Hudson's	1.12	19.0	3,150	Sovereign Gold
H16	347935	6611752	Hudson's	3.78	79.3	43,100	Sovereign Gold
R35	347925	6611725	Hudson's	2.84	22.0	18,300	Lode
R36	347777	6611452	Hudson's	2.73	0.3	5,600	Lode
R37	347777	6611455	Hudson's	2.03	1.0	5,740	Lode
R39	347773	6611459	Hudson's	5.06	2.5	10,550	Lode
R40	347771	6611465	Hudson's	6.31	1.5	4,960	Lode
R55	347771	6611416	Hudson's	4.29	0.5	6,960	Lode
R57	347810	6611441	Hudson's	1.34	0.3	2,310	Lode
S26A	347927	6611728	Hudson's	4.74	41.4	45,700	Sovereign Gold
S26B	347927	6611728	Hudson's	3.30	44.1	51,600	Sovereign Gold
S26C	347927	6611728	Hudson's	1.16	7.1	8,680	Sovereign Gold
S26D	347927	6611728	Hudson's	2.92	31.8	24,400	Sovereign Gold
S2965296	347775	6611462	Hudson's	7.58	3.1	16,200	Sovereign Gold
S344	347921	6611712	Hudson's	1.14	3.1	3,300	Sovereign Gold
S345	347923	6611719	Hudson's	1.11	4.9	3,910	Sovereign Gold
S540X8	347837	6611734	Hudson's	2.90	12.7	8,900	Sovereign Gold
S572	351702	6613861	Jackson's	1.47	0.1	1,130	Sovereign Gold
S574	351686	6613840	Jackson's	1.04	0.0	641	Sovereign Gold
MM1	351590	6608191	Melvaine's	2.12	0.8	1,185	Sovereign Gold
S414	351590	6608191	Melvaine's	13.75	5.2	2,580	Sovereign Gold
S415	351590	6608191	Melvaine's	1.30	1.0	452	Sovereign Gold
S587	351590	6608191	Melvaine's	3.69	2.0	473	Sovereign Gold
S591	351590	6608191	Melvaine's	1.10	1.6	87	Sovereign Gold

Table 12: Significant rock chip samples from area of EL8980

Note: Samples not listed did not return significant assay results

GOLDSWORTH MINE

Preskome carried out detailed rock chip sampling at the Goldsworth Mine and outlined several gold anomalous trends subparallel to the main line of workings (Verbruggen, 1989).

Sovereign Gold (Leu, 2010) noted that both the Goldsworth Mine and Vickers Prospect occur along a distinctive magnetic linear (Figure 25) that is potentially a major regional conduit for late-stage gold-

bearing fluids. Sampling of the waste dumps of the Goldsworth Mine indicated close spaced (10-40mm), narrow (up to 10-20mm wide), ferruginous/sulphidic quartz veins in granite with disseminated mineralisation between veins. Selective rock chip sampling (9 samples) of these sheeted veins returned high grade gold and silver values, up to 6.78ppm Au and 5.9ppm Ag (coincident sample) and 25.5ppm silver, 1.1% zinc and 0.89% lead (coincident sample from "Goldsworth Mine Area", but sample location coordinates were not recorded) (Leu, 2010).

In 2015, Sovereign Gold conducted a grid soil sampling program over the Goldsworth Mine zone. Anomalous gold values appear to parallel the trend of the 'Bonanza Dyke' magnetic anomaly, with a sinistral offset of around 150m across a NW-trending structure (Figure 26).

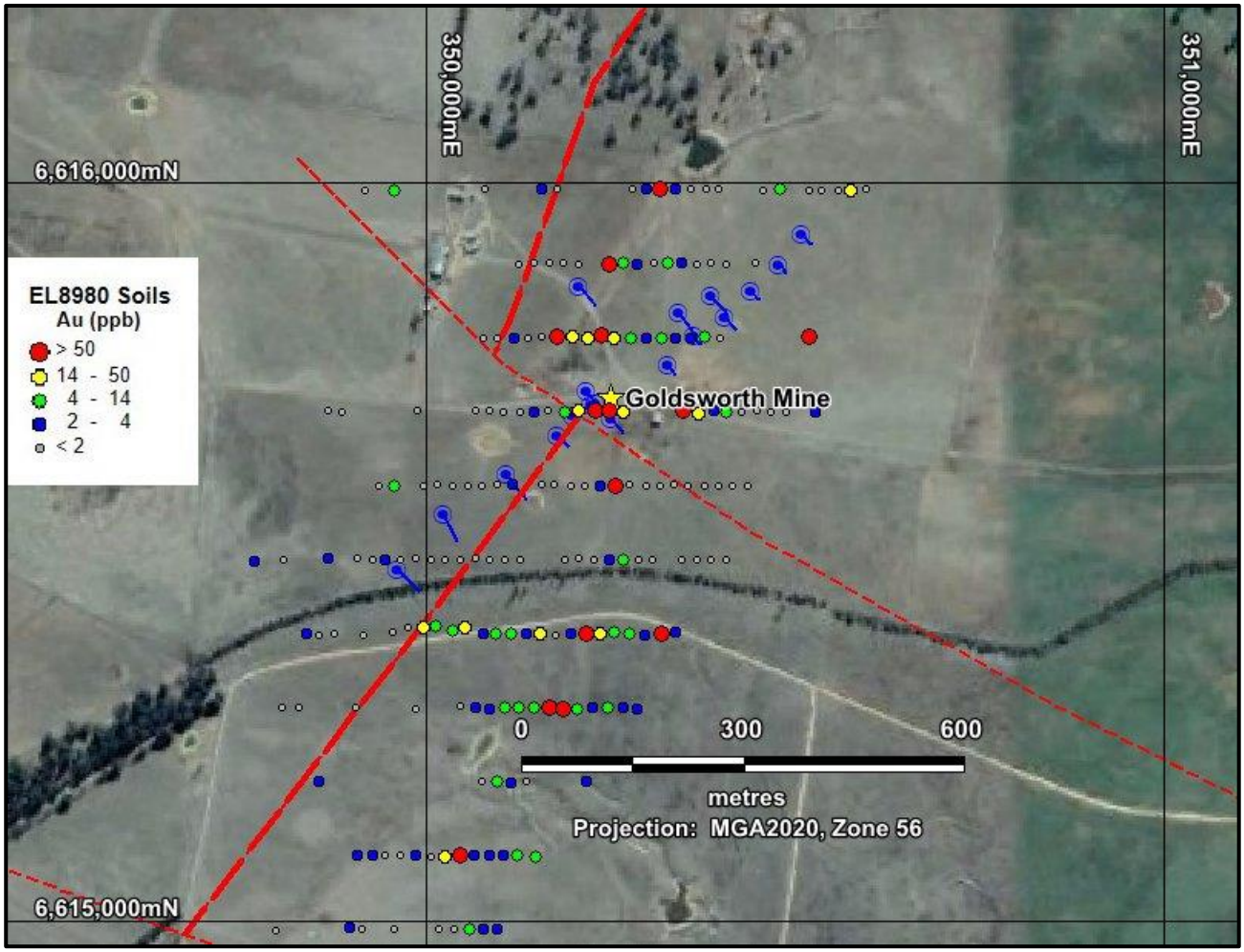

Figure 26: Goldsworth Mine, drillholes, soil sampling & major structures

VICKERS PROSPECT

Rock chip sampling by Sovereign Gold returned some anomalous values including 4.74ppm Au & 41.4ppm Ag in one sample and 3.3ppm Au & 44.1ppm Ag in another sample, both in sheeted ferruginous quartz veins (Leu, 2010). Of the ten samples collected, five returned gold values >1ppm Au and silver values >5ppm Ag. However, these results are likely to be from selective mineralised samples and are not regarded as being representative of the grade of the mineralisation in general.

HUDSON'S PROSPECT

Close-spaced (20m x 10m) soil sampling by Sovereign Gold during 2012 identified scattered weakly anomalous gold values (>50ppb Au) (Figure 28) that were not followed up. Rock chip sampling by Sovereign Gold returned gold assays up to 7.58ppm Au and silver assays up to 79ppm Ag. Details of the sampling was not reported, although it is likely that they were selective samples of visible mineralisation / veining.

Lode Resources have received assay results for 15 selective rock chip samples collected during 2020-21 from outcrops over a 350m strike extent closely associated with the Bonanza Dyke structure.

Nine of these samples returned assays > 1ppm Au (up to 6.38ppm Au), with associated elevated arsenic values (up to 1.83% As) and occasional elevated lead and zinc values (Figure 27). The lithologies are described as moderate to highly altered (silica / sericite / potassic) siltstone with a moderate amount of quartz veining and disseminated sulphides (trace to 3% arsenopyrite + pyrite). The widespread and pervasive alteration indicates that the mineralisation is not restricted to thin quartz veins, as had previously been interpreted.

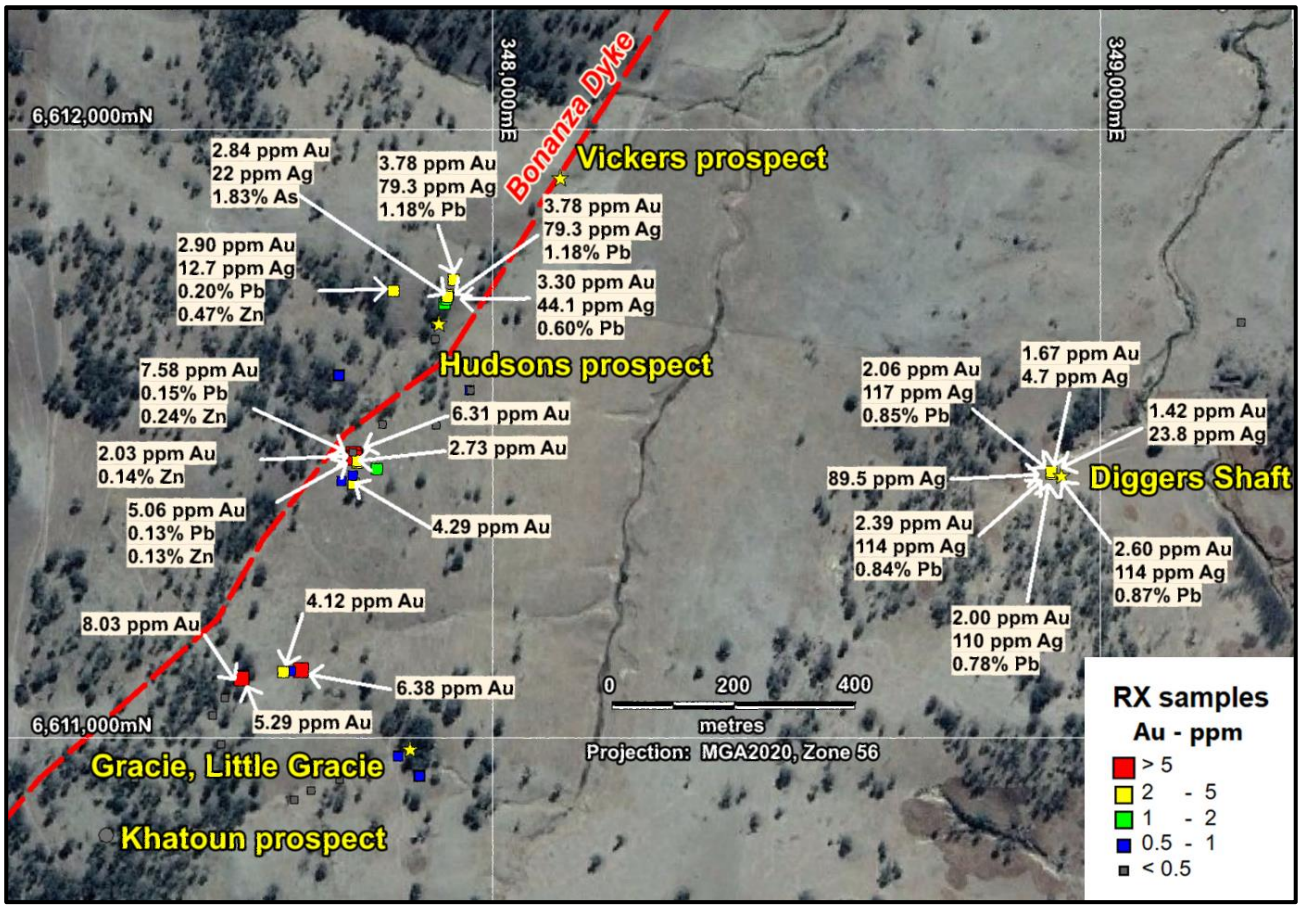

Figure 27: Hudson's, Gracie, Diggers Shaft prospects, rock chip sampling

Includes samples collected by Sovereign Gold and Lode Resources

Gracie and Little Gracie Mines

A gold-bearing sheeted vein system was discovered by Sovereign Gold (Leu, 2010) to the north-west of the main Gracie line of lode. Twenty-one rock chip sample results were reported, with better values including 3.08ppm Au & 6.5ppm Ag and 1.93ppm Au & 8.5ppm Ag, respectively in gossanous, quartz-sericite altered veins. The better results came from selected samples from waste dumps and outcropping gossanous sheeted veins and are not necessarily representative of the mineralisation in general.

Rock chip sampling undertaken by Lode during 2020-21 consisted of 19 samples collected from outcrops of quartz-iron oxide veined metasediments related to interpreted fault structures to the west of the Gracie workings. Significant grades included 8.03ppm Au, 6.38ppm Au and 4.12ppm Au (Figure 27). High gold grades are associated with elevated arsenic values (>1000ppm As).

Martin's Shaft

Sovereign Gold collected 16 rock chip samples from the Martin's Shaft prospect during 2010. Sample locations were not presented in the report, other than stating that they were "samples of lithologies around collar of shaft" (Leu, 2010). In this regard, they can be regarded as selective samples of mineralised material and not necessarily representative of the overall mineralisation. It is not surprising, therefore, that the assays were quite high, up to 8.21ppm Au (only 7 samples assayed less than 1ppm Au). Most of them also contained significant arsenic grades, up to 3.5% As.

Lode Resources collected three rock chip samples from locations up to 540m south of Martin's Shaft. There were no significant assay results.

Wilson's Creek Shaft

Sovereign Gold reported high silver grades in association with gold and base metals at Wilson's Creek Shaft (Leu, 2010). The company considered that brecciation and quartz flooding of hornfels indicates the mineralised structure is part of a fault/shear zone, but they also observed large areas of sheeted veins. Some of the better assays returned include 3.02ppm gold, 96ppm silver, 0.35% lead; 0.14ppm gold, 165ppm silver, 1.1% lead; 0.41ppm gold, 138ppm silver, 0.18% zinc, 0.65% lead. All samples are quartz veins with disseminated sulphides. These results came from selective rock samples collected from mine dumps and are not necessarily representative of the mineralisation in general.

The high Ag, Pb, Zn and Cu values (relative to other sheeted vein occurrences in the region) were interpreted to indicate that the Wilson's Creek deposit was deposited distal to the causative pluton (Figure 9) (Leu, 2010).

Fraser's Find

Fraser's Find shaft is located around 2.8km northeast of Martin's Shaft. Sovereign Gold's rock chip sampling program in 2012 returned very high-grade gold and silver values (Leu, et al., 2012) from selective samples of lode material comprising quartz-arsenopyrite-pyrite-galena. Values reported by Sovereign Gold included 76.9ppm Au, 287ppm Ag, 1.78% Pb; 21.1ppm Au, 1,110ppm Ag, 5.5% Pb, 0.24% Bi; and 24.9ppm

Au, 333ppm Ag, 2.3% Pb from selective high-grade quartz-sulphide samples. These results are not regarded as being necessarily representative of the grade of the mineralisation in general.

Sugec Mining Co Pty Ltd ('Sugec', in joint venture with Sovereign Gold) conducted a close-spaced soil survey covering an area including Vickers Prospect, Fraser's Find, Suey's Claim and Martin's Shaft and determined the Fraser's Find area to be "a priority drill target". Sovereign Gold highlighted a number of 'spot highs' for gold in close association with Fraser's Find, McCrossin's and several other areas (Leu, et al., 2015). However, Geos Mining's review of the data does not show any significant trends or zones of gold anomalism at Fraser's Find (Figure 28).

Consistently high metal values were returned for soil samples from the Hudson's Prospect. We suspect that these results may be due to a batch effect reporting higher values in comparison to other sampling. However, check sampling is recommended.

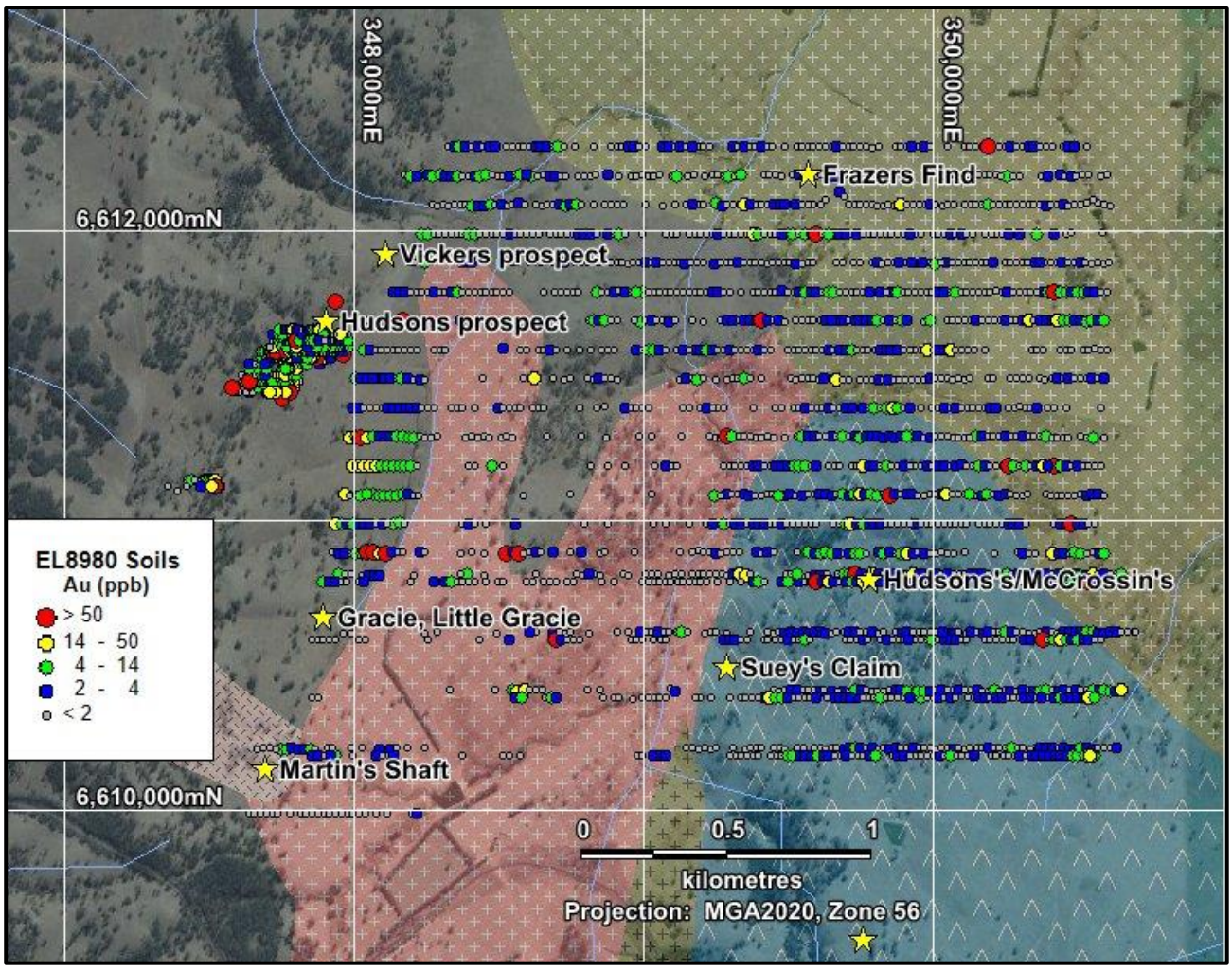

Figure 28: Sovereign Gold soil results – Fraser's Find to Martin's Shaft area

McCrossin's – Suey's Claim Structure

Sovereign Gold collected rock samples from waste dumps at these old workings, returning anomalous gold and silver values up to 0.66ppm Au & 10.95ppm Ag (McCrossin's) and 0.81ppm Au & 15.2ppm Ag (Suey's Claim) (Leu, 2010). The better results came from selected samples of narrow mineralised veins and brecciated shear zones and are not necessarily representative of the mineralisation in general.

Reedy Creek

A close-spaced soil survey was conducted by Sovereign Gold to replicate a soil survey carried out during the 1970s that returned anomalous gold values. It was hoped that these results could be used as a vector to the hard rock source of the alluvial gold recovered historically from Reedy Creek (Robertson, 2012). Sovereign Gold used a portable XRF analyser and recorded very high arsenic values that were partly reproduced following assay. However, only trace gold values were returned.

8.7. Geophysics

Airborne Magnetics and Radiometrics

The GSNSW collected airborne magnetic and radiometric data over the Peel South project area in the Manilla-Armidale region. The survey was flown by Tesla Geophysics during 2001 using fixed-wing aircraft along 250m spaced E-W lines at a nominal 60m ground clearance. The objective of the survey was to facilitate the reinterpretation of geological units and structures bordering the Peel Fault (Brown, 2003). Processing of the data provided an excellent tool for bedrock geological interpretation (Figure 29), with the magnetics data distinguishing and differentiating some surface geological units. Many major fault and fractures were identified from the magnetic data (Brown, 2003).

Sovereign Gold commissioned a fixed wing magnetic and radiometric survey with 60m sensor height and 50m spaced lines covering 214km^2, which included most of the area covered by EL8980 (Figure 30) (Leu & Roberton, 2011). Processed aeromagnetic data was presented as images in the Sovereign Gold Annual Report for EL7491 (Figure 30). Efforts should be made to obtain the entire data package, either from GSNSW, Thomson Aviation (the contractor) or from previous officers of Sovereign Gold who might still hold the data.

Interpretation of the data by Sovereign Gold indicated that the known mineral occurrences are coincident with magnetic cross-cutting linear structures. They considered that Martin's Shaft, Little Gracie, Gracie, Wilson's Creek and the Goldsworth Mine are all located on major magnetic linears and that significant drill targets occur where major magnetic lineaments intersect (Figure 31) (Leu, et al., 2012).

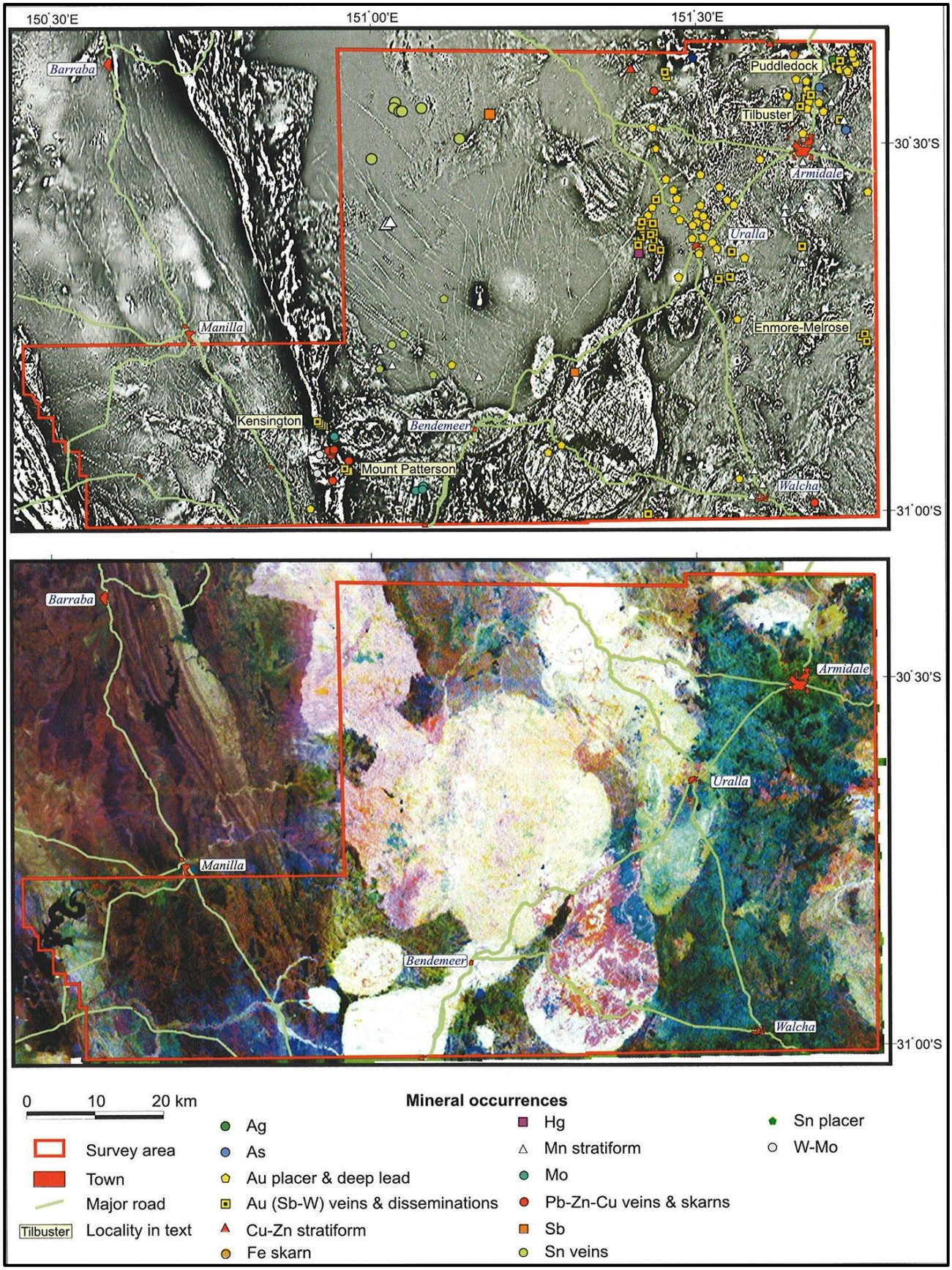

Figure 29: Peel South airborne geophysics survey

Source: Brown, 2003

Top – First Vertical Derivative of Total Magnetic Intensity; Bottom – RGB radiometrics image

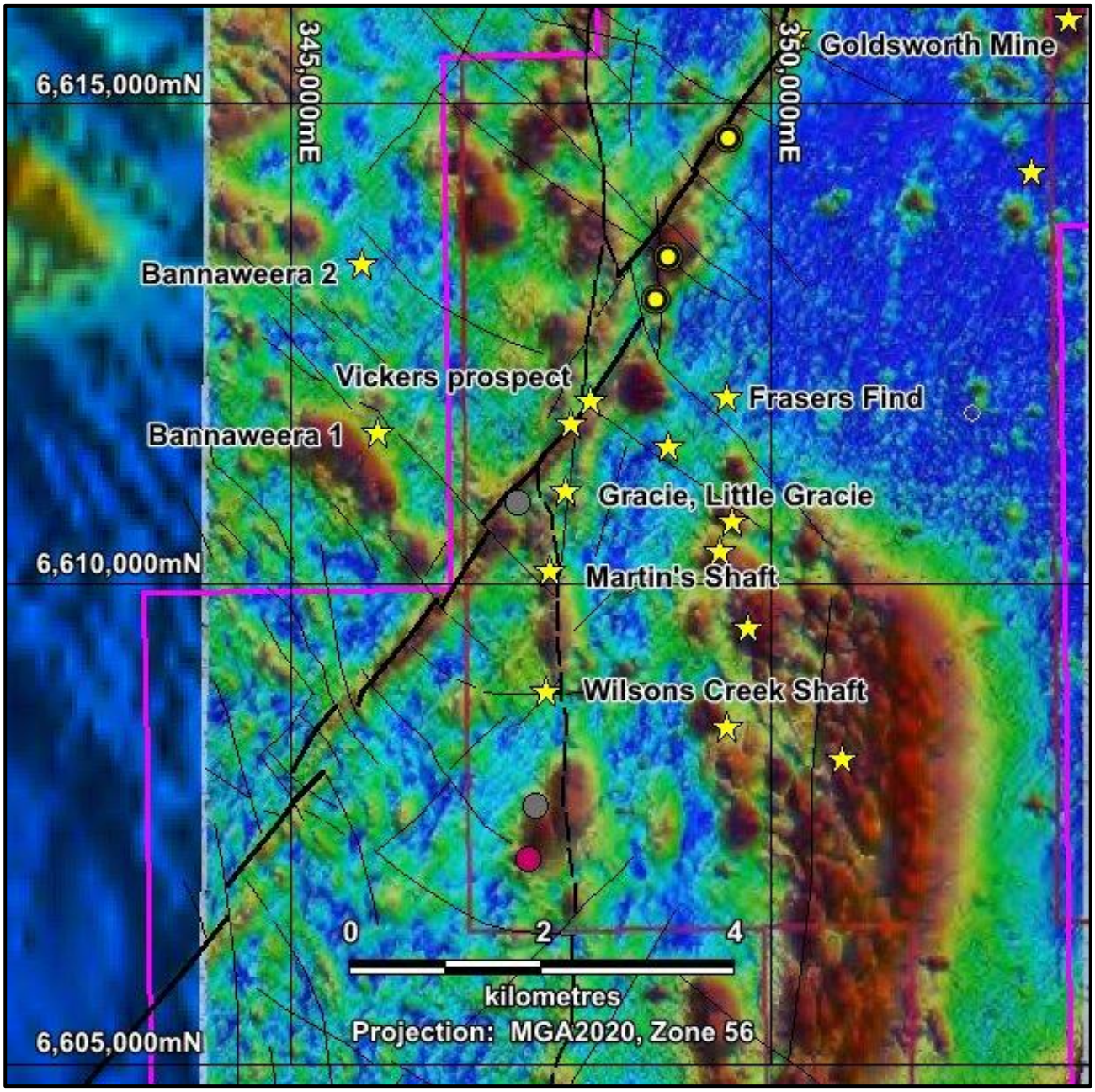

Figure 30: Sovereign Gold's 2011 aeromagnetic survey area over EL8980

Leu, et al., 2012 noted that coincident magnetic and radiometric anomalies define a small sub-circular structure up to 500 metres in diameter associated with radial structures containing the Fraser's Find and Diggers Shaft gold mineralisation (Figure 31).

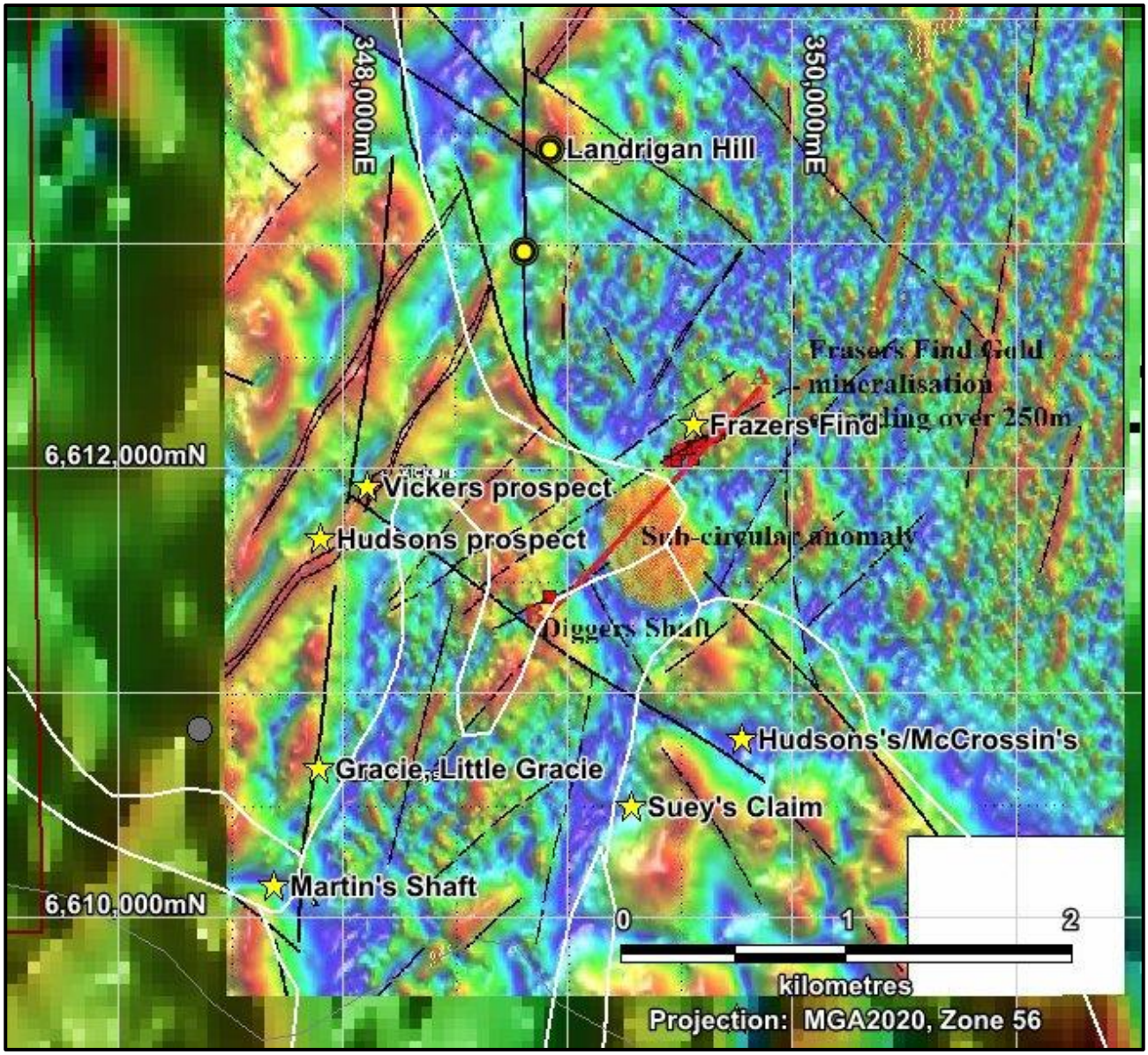

Figure 31: Magnetic trends interpreted by Sovereign Gold

Source: Map created by Sovereign Gold (Leu, et al., 2012), with outlines of geological units in white

Induced Polarisation Surveys

Lode Resources commissioned Fender Geophysics to undertake Induced Polarisation (IP) surveys over four project areas during 2020 (Clar, 2020). The surveys utilised a dipole-dipole array with dipole spacings of either 50m or 100m (Table 13, Figure 32). Grid lines over the McCrossin's and Hudson's prospects were oriented E-W across the regional strike. Grid lines over the Martin's Shaft prospect were oriented N-S across the E-W strike of the felsic dyke that is believed to be associated with the mineralisation there. The single line of readings at Fraser's Find was oriented NW-SE across the general trend of the historical workings.

Processing of the IP data was undertaken by Fender Geophysics (2D pseudosections) and by Newexco Exploration (2D and 3D inversion models) (Muthupandian, 2021).

Survey Specifications	
Survey Type	Induced Polarisation
Array Type	Dipole-dipole
Receiver Dipole Length	50 and 100m
Transmitter Dipole Length	50 and 100m
Line Length	Various
Line Separation	Various
Number of Lines	15
Total Line km	12.65km
Line Orientation	Various
Domain and Cycle	Time domain: 2 seconds / 0.125Hz

Table 13: Uralla IP survey specifications

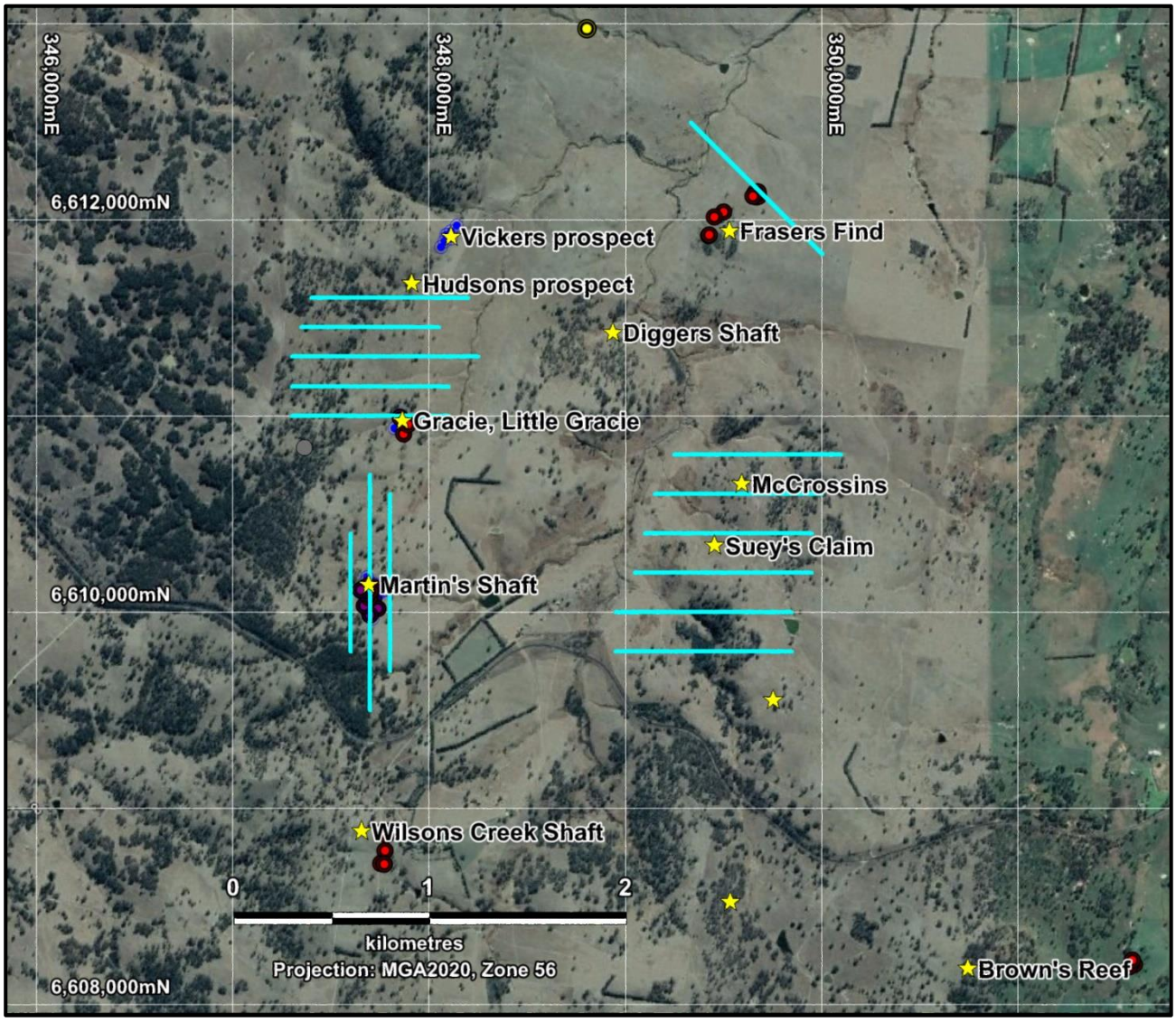

Figure 32: Uralla IP survey lines, prospects & drilling

The following interpretations were made from the IP results (Mayes, 2021):

- General Observations:
    - Good correlation between the historical gold workings and the IP chargeability anomalies
    - Good correlation between the As values in ??soil sampling and the IP chargeability anomalies
- McCrossin's (Figure 33):
    - good correlation between elevated potassium in the airborne radiometrics survey and IP chargeability anomalies
    - chargeability increasing to the south and remains open to the south
- Martin's Shaft (Figure 34):
    - Strong (and unexpected) IP chargeability anomaly at the southern end of the central Martin;s Shaft survey line
    - Modelled anomalies to the south and north of the historical drilling
- Hudson's (Figure 35):
    - Sections show a weak IP anomaly coincident with the Bonanza Dyke
    - A much stronger chargeability anomaly is coincident with historical workings on the Little Gracie trend, at the southern end of the survey area
- Fraser's Find (Figure 36):
    - Shows a moderately strong anomaly to the north west of the known workings that remains unexplained. This coincides with some stock yards so potential cultural effects need to be considered
    - a further anomaly at the very SE end of the line has not been fully resolved

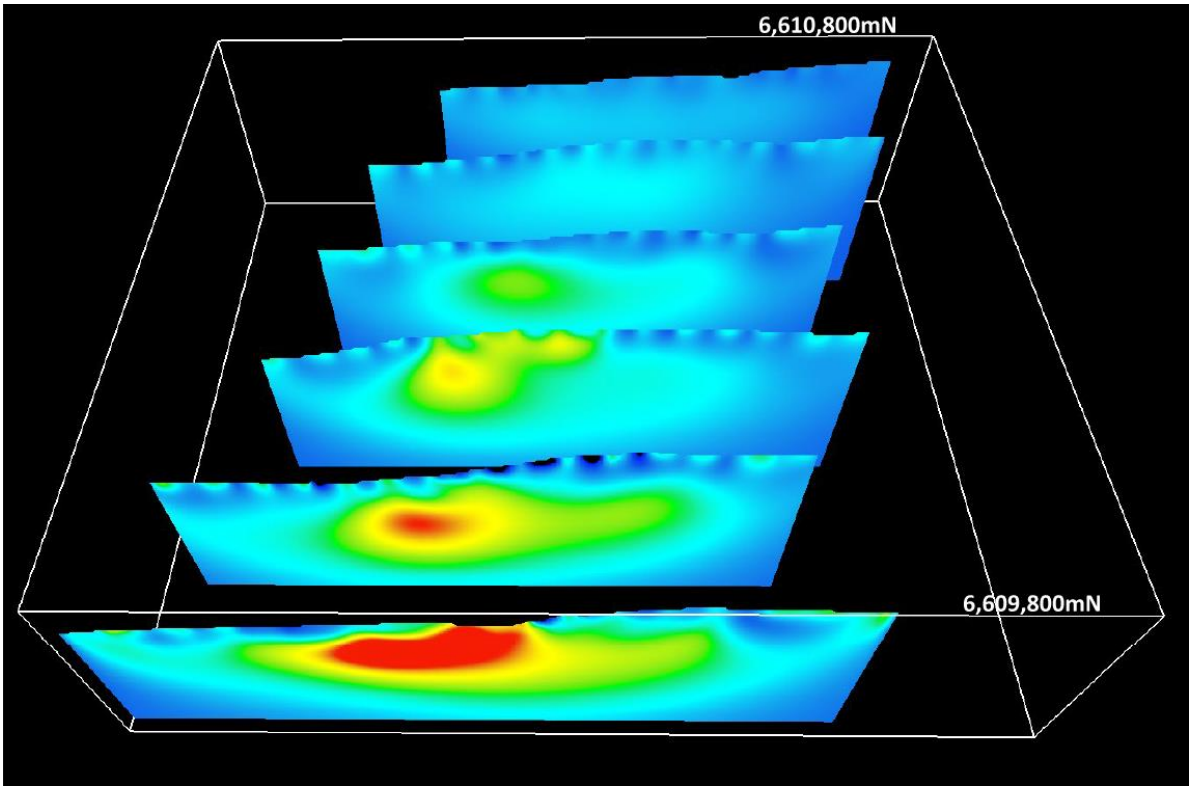

Figure 33: McCrossin's prospect stacked IP pseudosections looking north

Source: Muthupandian, 2021

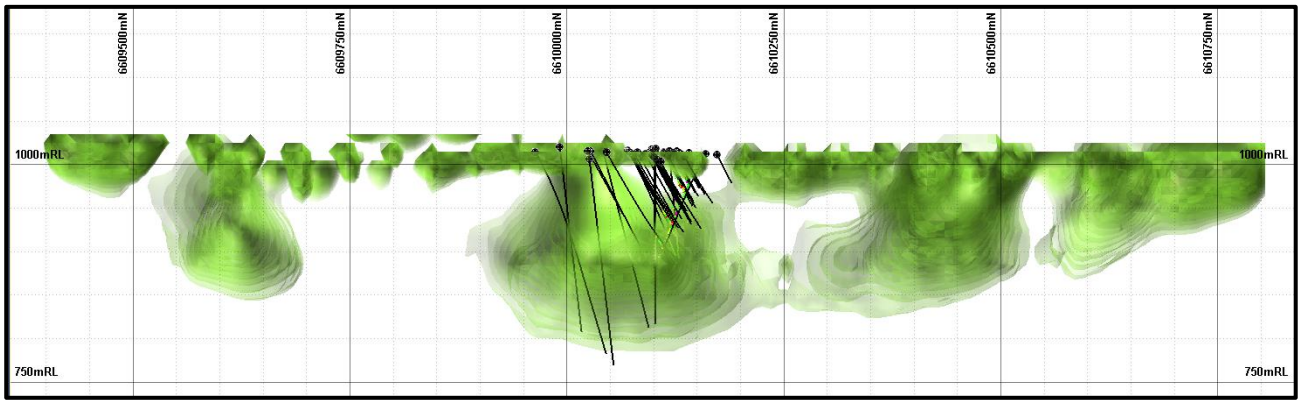

Figure 34: Martin's Shaft prospect 3D IP inversion isosurfaces and drillholes, section looking west

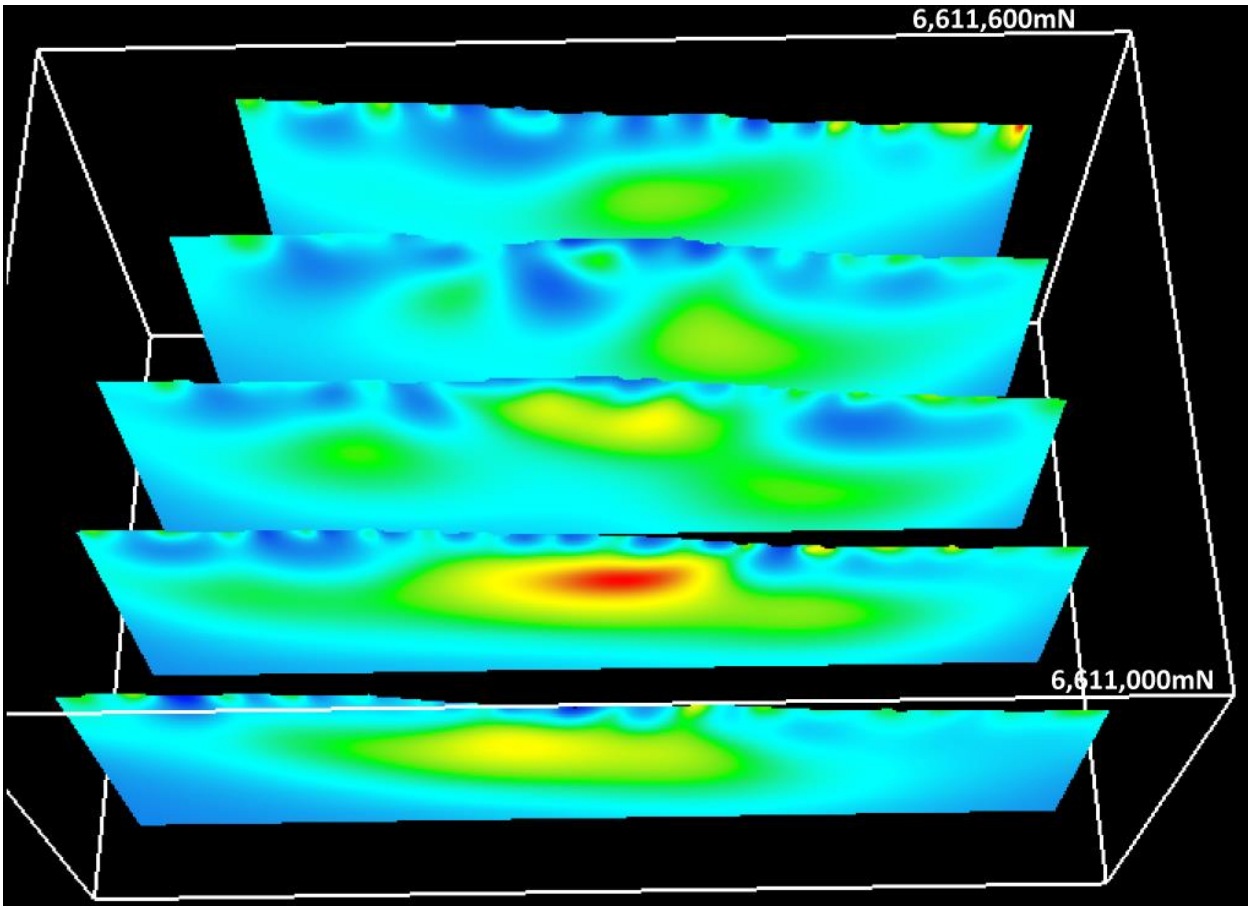

Figure 35: Hudson's prospect stacked IP pseudosections looking north

Source: Muthupandian, 2021

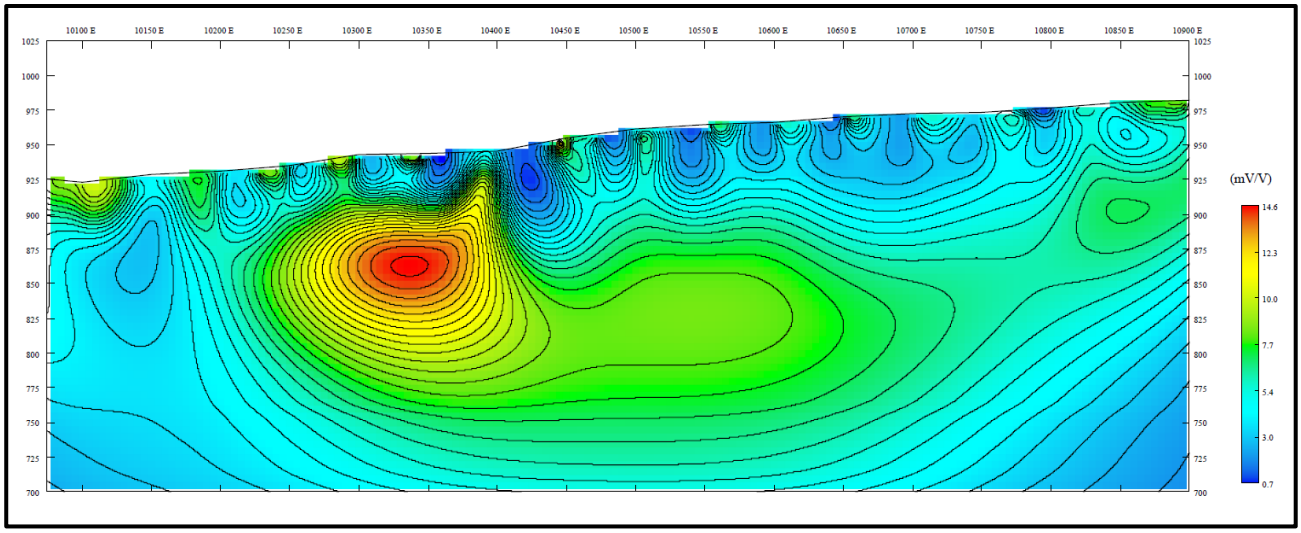

Figure 36: Fraser's Find prospect IP pseudosection

Source: Clar, 2020; Note eastings based on local grid

8.8. Drilling

Uralla Gold Pty Limited completed two shallow aircore drillholes totalling 54m to test alluvial material at the Sydney Flat Deep Lead. Results were disappointing and no further work was undertaken (Hetherington, 1995).

Sovereign Gold undertook several drilling programs on eight prospect areas within EL6483 between 2011 and 2015 (Table 14).

HOLE_ID	East MGA94	North MGA94	RL (m)	Prospect	Dip	Azim	Length (m)	Drill Type	Year
14	348650	6607865		Uralla Gold	-90	0	36	AC	1994
15	348650	6607865		Uralla Gold	-90	0	18	AC	1994
SGRDD001	347690	6610141	1013.7	Martin's Shaft	-62.1	61.5	13.5	DD	2011
SGRDD002	347698	6610123	1012.7	Martin's Shaft	-56.7	342.4	41	DD	2011
SGRDD003	347700	6610112	1013.3	Martin's Shaft	-60	340	70.2	DD	2011
SGRDD004	347702	6610097	1013.3	Martin's Shaft	-58.4	345.9	76.1	DD	2011
SGRDD005	347716	6610135	1009.9	Martin's Shaft	-56.9	340.3	28.5	DD	2011
SGRDD006	347719	6610115	1011.2	Martin's Shaft	-60	340	60	DD	2011
SGRDD007	347687	6610095	1014.7	Martin's Shaft	-60	340	75.2	DD	2011
SGRDD008	347694	6610081	1014.4	Martin's Shaft	-60	340	99.5	DD	2011
SGRDD009	347716	6610075	1012.5	Martin's Shaft	-60	340	102	DD	2011
SGRDD010	347691	6610101	1014.3	Martin's Shaft	-90	340	133	DD	2011
SGRDD011	347870	6610914	1001.8	Little Gracie	-60	340	65.5	DD	2011
SGRDD012	347853	6610999	1005.2	Gracie	-73	120	100.5	DD	2011
SGRDD013	347891	6610962	997.4	Gracie	-60	300	50	DD	2011

HOLE_ID	East MGA94	North MGA94	RL (m)	Prospect	Dip	Azim	Length (m)	Drill Type	Year
SGRDD014	347688	6610124	1013.6	Martin's Shaft	-60	340	45.3	DD	2011
SGRDD015	347770	6608895	1036.2	Wilson's Creek	-60	285.1	32.1	DD	2011
SGRDD016	347788	6608890	1034.9	Wilson's Creek	-77.5	280.8	71.5	DD	2011
SGRDD017	347782	6608870	1035.7	Wilson's Creek	-69.4	285	75.2	DD	2011
SGRDD018	347774	6608790	1031.5	Wilson's Creek	-60	275	38	DD	2011
SGRDD019	347754	6608727	1029.3	Wilson's Creek	-60	279.7	45	DD	2011
SGRDD020	347773	6608722	1028.3	Wilson's Creek	-60.4	284.5	27	DD	2011
SGRRC001	347707	6610133	1011.3	Martin's Shaft	-60.9	341.8	54	RC	2011
SGRRC002	347708	6610124	1011.9	Martin's Shaft	-60.5	343.4	57	RC	2011
SGRRC003	347709	6610113	1012.2	Martin's Shaft	-59.2	340.1	72	RC	2011
SGRRC004	347687	6610130	1013.5	Martin's Shaft	-60.4	339	48	RC	2011
SGRRC005	347688	6610122	1013.7	Martin's Shaft	-59.2	337.5	54	RC	2011
SGRRC006	347689	6610112	1014	Martin's Shaft	-59.2	343.4	69	RC	2011
SGRRC007	347668	6610127	1015.3	Martin's Shaft	-60.3	350.8	45	RC	2011
SGRRC008	347669	6610119	1015.3	Martin's Shaft	-60.5	349.3	42	RC	2011
SGRRC009	347672	6610100	1015.9	Martin's Shaft	-60.5	342.8	66	RC	2011
SGRRC010	347653	6610097	1017.7	Martin's Shaft	-59.6	350.9	66	RC	2011
SGRRC011	347712	6610099	1012.6	Martin's Shaft	-59.6	346.1	78	RC	2011
SGRRC012	347726	6610136	1008.8	Martin's Shaft	-61.4	349.2	63	RC	2011
SGRRC013	347729	6610117	1010.1	Martin's Shaft	-61.7	344.2	60	RC	2011
SGRRC014	347732	6610098	1010.3	Martin's Shaft	-62.2	347.3	72	RC	2011
SGRRC015	347747	6610100	1008.5	Martin's Shaft	-62.1	347.3	90	RC	2011
SGRRC016	347761	6610103	1006.3	Martin's Shaft	-61.8	343.3	84	RC	2011
SGRRC017	347696	6610072	1014.5	Martin's Shaft	-62.8	343.8	117	RC	2011
SGRRC018	347716	6610075	1012.5	Martin's Shaft	-60	340	65	RC	2011
SGRRC019	347713	6610090	1012.6	Martin's Shaft	-60	340	87	RC	2011
SGRRC020	347781	6610108	1003.1	Martin's Shaft	-61.2	359.7	90	RC	2011
SGRRC021	347736	6610079	1010.1	Martin's Shaft	-60.9	344.4	105	RC	2011
SGRRC022	347720	6610046	1013.9	Martin's Shaft	-61.5	346.9	153	RC	2011
SGRRC023	348098	6611917	969.2	Vickers Prospect	-61.7	317	63	RC	2011
SGRRC024	348115	6611935	968.9	Vickers Prospect	-60.7	312.5	54	RC	2011
SGRRC025	348144	6611964	967.3	Vickers Prospect	-61.8	303.8	69	RC	2011
SGRRC026	348083	6611886	971.4	Vickers Prospect	-62.1	310.5	65	RC	2011
SGRRC027	348064	6611858	972	Vickers Prospect	-60.9	304.6	51	RC	2011
SGRRC028	348089	6611919	971.2	Vickers Prospect	-61.1	310.4	57	RC	2011
SGRRC029	348116	6611899	965.7	Vickers Prospect	-62.1	313	104	RC	2011
SGRRC030	347690	6610160	1012.6	Martin's Shaft	-60.6	159.9	139	RC	2011
SGRRC031	347688	6610173	1011.3	Martin's Shaft	-60.1	345.3	37	RC	2011
SGRRC032	347714	6609964	1014.2	Martin's Shaft	-60.3	343.7	247	RC	2011
SGRRC033	347714	6610024	1015.5	Martin's Shaft	-60	340	87	RC	2011

HOLE_ID	East MGA94	North MGA94	RL (m)	Prospect	Dip	Azim	Length (m)	Drill Type	Year
SGRRC034	347713	6610027	1015.6	Martin's Shaft	-60.5	346.5	139	RC	2011
SGRRC035	347686	6610071	1015.3	Martin's Shaft	-60.6	348.1	133	RC	2011
SGRRC036	347676	6610070	1016.3	Martin's Shaft	-60	340	115	RC	2011
SGRRC037	347851	6610932	1003.8	Little Gracie	-90	000	27	RC	2011
SGRRC038	347826	6610933	1005.4	Little Gracie	-60	096.3	55	RC	2011
SGRRC039	347854	6611000	1001.9	Little Gracie	-60	310.4	49	RC	2011
SGRRC051	350250	6615680	961.6	Goldsworth Mine	-74	140	103	RC	2011
SGRRC052	350228	6615701	961.1	Goldsworth Mine	-60	140	49	RC	2011
SGRRC053	350223	6615699	961	Goldsworth Mine	-78	140	67	RC	2011
SGRRC054	350216	6615717	960.5	Goldsworth Mine	-75	140	121	RC	2011
SGRRC055	350197	6615683	961.4	Goldsworth Mine	-60	062	67	RC	2011
SGRRC056	350177	6615658	962.1	Goldsworth Mine	-65	138	55	RC	2011
SGRRC057	350108	6615604	963.3	Goldsworth Mine	-60	140	98	RC	2011
SGRRC058	350326	6615752	959.4	Goldsworth Mine	-60	140	37	RC	2011
SGRRC059	350361	6615792	958.6	Goldsworth Mine	-74	140	61	RC	2011
SGRRC060	350404	6615817	958.4	Goldsworth Mine	-70	140	67	RC	2011
SGRRC061	350439	6615853	957.1	Goldsworth Mine	-70	140	55	RC	2011
SGRRC062	350477	6615888	956.7	Goldsworth Mine	-70	140	48	RC	2011
SGRRC063	350508	6615930	955.2	Goldsworth Mine	-70	140	67	RC	2011
SGRRC064	350384	6615846	957	Goldsworth Mine	-70	140	103	RC	2011
SGRRC065	350023	6615551	964.8	Goldsworth Mine	-66	152	121	RC	2011
SGRRC066	349960	6615476	967.4	Goldsworth Mine	-66	134	115	RC	2011
SGRRC067	350341	6615824	957.2	Goldsworth Mine	-62	144	103	RC	2011
SGRRC068	350207	6615859	956.4	Goldsworth Mine	-58	140	67	RC	2011
SGRDD023	349674	6612150	963.3	Fraser's Find			14.7	DD	2012
SGRDD024	349676	6612147	963.8	Fraser's Find			17.1	DD	2012
SGRDD025	349661	6612146	963.7	Fraser's Find			17.2	DD	2012
SGRDD026	349678	6612144	964.2	Fraser's Find			17.9	DD	2012
SGRDD027	349664	6612140	963.9	Fraser's Find			22	DD	2012
SGRDD028	349664	6612139	964.2	Fraser's Find			22.2	DD	2012
SGRDD029	349666	6612132	962.3	Fraser's Find			31.2	DD	2012
SGRDD030	349669	6612122	964.1	Fraser's Find			48.1	DD	2012
SGRDD031	349680	6612125	964.9	Fraser's Find			45.4	DD	2012
SGRDD032	349500	6612047	962	Fraser's Find			55.8	DD	2012
SGRDD033	349455	6612020	943	Fraser's Find			40.2	DD	2012
SGRDD034	349677	6612149	964.9	Fraser's Find			13.4	DD	2012
SGRDD035	349651	6612126	963.8	Fraser's Find			25.3	DD	2012
SGRDD040	351595	6608210	964.9	Melvaine's			27.1	DD	2013
SGRDD041	351569	6608201	963.8	Melvaine's			70.4	DD	2013
SGRDD042	351584	6608234	964.1	Melvaine's			39	DD	2013

HOLE_ID	East MGA94	North MGA94	RL (m)	Prospect	Dip	Azim	Length (m)	Drill Type	Year
M-ZK0001	347739	6610026	1006	Martin's Shaft	-75	296	245.5	DD	2014
M-ZK0002	347670	6610041	1018.5	Martin's Shaft	-75	015	214	DD	2014
M-ZK0003	347653	6610118	1015.8	Martin's Shaft	-80	060	125.7	DD	2014
M-ZK0004	347676	6610102	1018.1	Martin's Shaft	-90	000	201.6	DD	2014
M-ZK0301	347700	6609992	1020.1	Martin's Shaft	-75	296	220.4	DD	2014
FF-ZK007	349426	6611926	949.1	Fraser's Find	-60	210	276	DD	2015
FF-ZK0802	349428	6611929	948.4	Fraser's Find	-60	320	115.9	DD	2015

Table 14: Historical Drillholes completed within the area of EL8980

Note: Orientation of drillholes SGRDD023 - SGRDD042 not recorded

MARTIN'S SHAFT

A total of 29 Reverse Circulation (RC) drillholes (for 2,534m) and 16 Diamond (DD) drillholes (for 1,751.5m) were completed by Sovereign Gold during 2011 (Figure 37).

The gold mineralisation comprised sheeted veins and disseminations within a felsic dyke that has been drilled to 120m vertical depth (Figure 38, Figure 39). Sovereign Gold considered that the host lithology has acted as a brittle host for magmatic fluids (Leu & Roberton, 2011).

Significant intersections (>1 g/t Au cut-off) from the Martin's Shaft drillholes, compiled from reported drillhole assay data, are presented in Table 15.

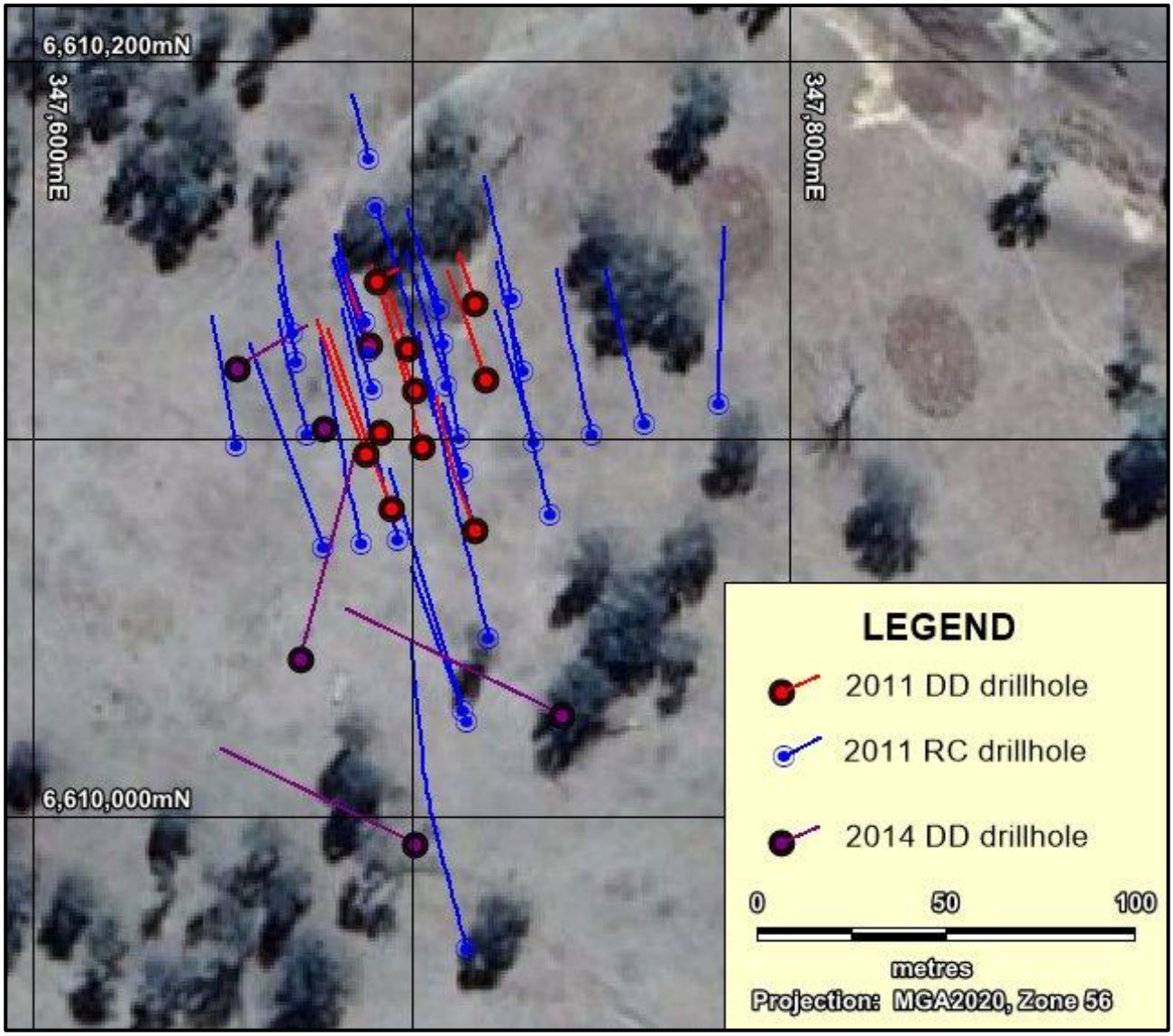

Figure 37: Martin's Shaft drillhole locations

The drilling defined a mineralised zone with approximate dimensions of ~70m along strike, ~25m thick and ~120m down dip. The shape of the body is suggestive of a pipe-like structure, possible at the intersection of cross-cutting faults (Figure 38). A longitudinal section along the strike of the mineralisation confirms this pipe-like nature (Figure 39) and suggests that the mineralisation is open down plunge. Although there are some photographs of mineralised veins and alteration zones in the Sovereign Gold reports, the lack of lithological logging for the majority of the drillholes makes an interpretation difficult.

Sovereign Gold surmised that the drilling results indicate that the body is widening with depth (Leu & Roberton, 2011), although, in Geos Mining's opinion, this interpretation is not borne out by the drilling results. However, the mineralised structure is still open at depth and deeper drilling is recommended to test for extensions.

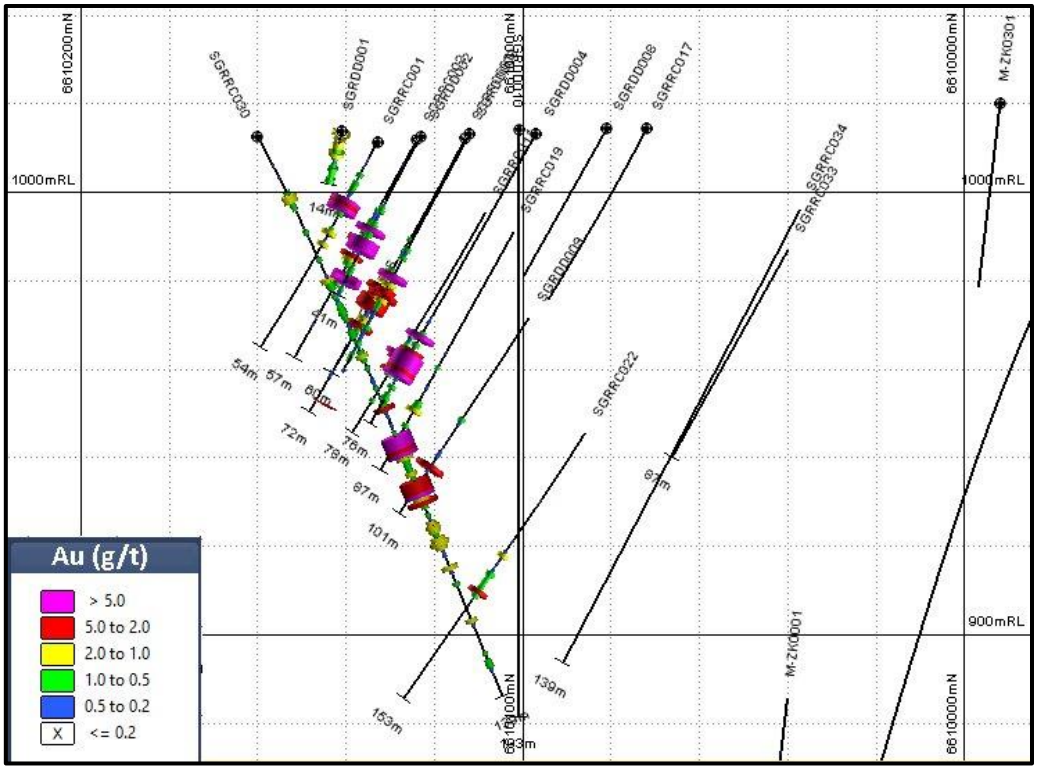

Figure 38: Martin's Shaft Drill Cross-section 347,700mE (+/- 10m) looking east

Note: Assays for the vertical drillhole SGRDD010 not available

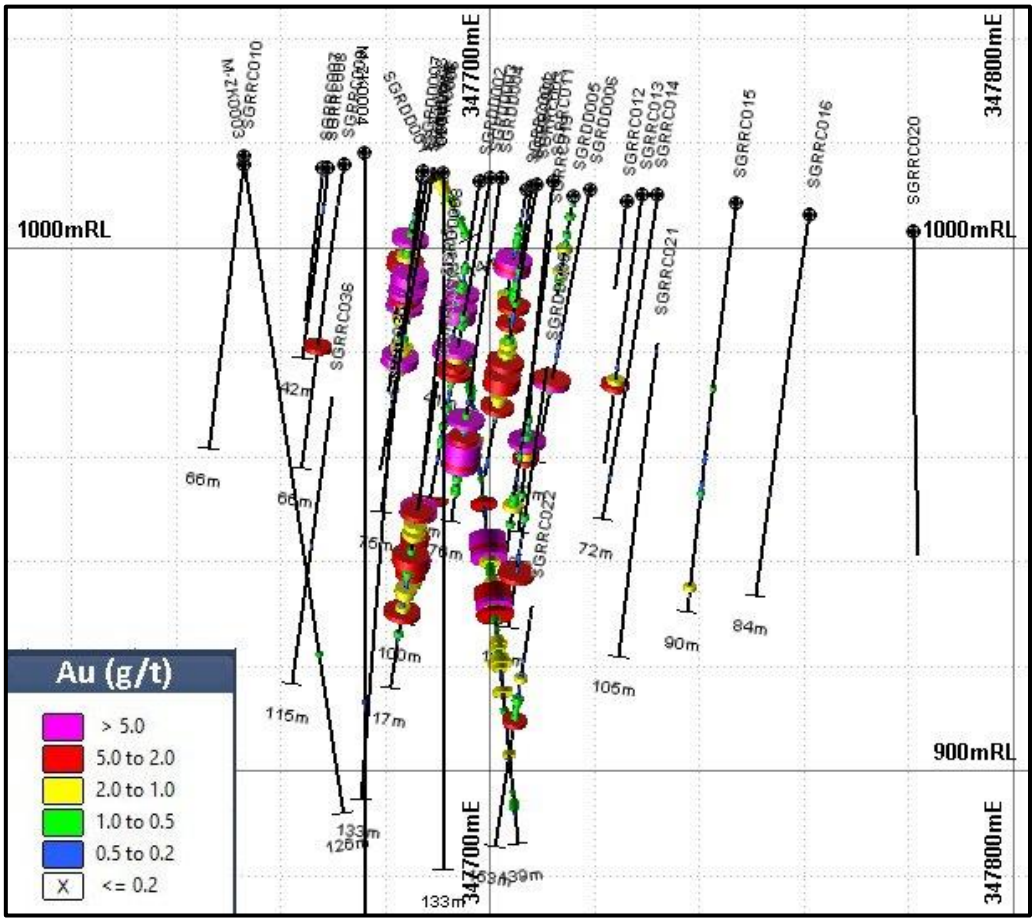

Figure 39: Martin's Shaft Drill Cross-section 6,610,120mN (+/- 20m) looking north

Hole ID	From (m)	To (m)	Interval (m)	Au (g/t)	Ag (g/t)	Sb %	Comment
SGRDD001	0	6	6	1.28	0.7	-	
SGRDD002	24	38	14	4.83	3.8	-	Twinned SGRRC002
incl	27	30	3	6.94	10.3	-	
and	36	38	2	18.95	8.8	0.43	
SGRDD003	37	44	7	2.83	2.4	-	
SGRDD004	53	64	11	5.38	10.9	0.17	Twinned SGRRC011
incl	58	64	6	8.30	18.8	0.30	
SGRDD005	11	13	2	1.14	1.0	-	
SGRDD006	41.5	44	2.5	3.80	15.1	0.20	
SGRDD008	73.5	92	18.5	2.41	3.8	-	
Incl	85	89	4	4.81	1.6	-	
SGRDD009	88	89	1	4.18	1.6	-	
SGRDD010	78	113	35	1.10	-	-	Note 1
incl	84	89	5	3.29	-	-	Note 1
SGRDD014	21	29	8	5.40	1.8	0.27	Twinned SGRRC005
SGRRC001	15	18	3	6.20	3.7	-	
SGRRC002	26	32	6	1.43	3.2	-	Twinned SGRDD002
SGRRC003	35	50	15	1.84	1.2	0.12	
SGRRC004	13	27	14	2.41	1.5	0.19	
SGRRC005	25	32	7	3.13	1.4	0.20	Twinned SGRDD014
SGRRC006	37	44	7	3.54	2.8	0.30	
SGRRC009	39	40	1	2.27	1.3	-	
SGRRC011	57	62	5	2.50	2.1	0.13	Twinned SGRDD004
SGRRC013	40	43	3	1.60	5.1	-	
SGRRC017	76	100	24	1.26	3.0	0.11	
SGRRC022	123	124	1	2.04	3.9	-	
SGRRC030	15	17	2	1.50	0.2	-	Note 2
SGRRC030	67	69	2	1.18	58.3	-	Note 2
SGRRC030	74	103	29	3.24	14.0	0.11	Note 2
SGRRC035	90	112	22	1.15	-	-	Note 1
SGRRC036	90	98	8	2.19	-	-	Note 1

Table 15: Martin's Shaft intersections (>1g/t gold) drilled by Sovereign Gold

Note 1: Reported in Leu & Robertson, 2011; Summary Au grades only. Raw assay data not available.

Note 2: SGRRC030 drilled down the dip of the mineralised zone

Note 3: Intervals not listed did not contain significant mineralisation

A total of four diamond drillholes completed by Sugec Mining during 2014 (Leu, et al., 2014) intersected low grade mineralisation with only occasional thin intervals of high-grade gold and antimony.

There were no significant intersections for drillholes SGRDD007, SGRRC007, SGRRC008, SGRRC010, SGRRC012, SGRRC014, SGRRC015, SGRRC016, SGRRC019, SGRRC020, SGRRC021, SGRRC031, SGRRC032, SGRRC033, SGRRC034, M-ZK0001, M-ZK0002, M-ZK0003, M-ZK0004 & M-ZK0301.

Sovereign Gold carried out drillhole 'twinning' to compare the sample integrity of RC samples versus core samples (Leu & Roberton, 2011). Drillholes SGRDD014 and SGRRC005 were collared two metres apart but recorded significantly different intersections in terms of Au grade (Figure 40):

Pair 1 (2m apart):

- SGRDD014: 8m @ 5.40 g/t Au from 21m (0.5 g/t Au cut-off)
- SGRRC005: 8m @ 2.83 g/t Au from 25m (0.5 g/t Au cut-off)

Similar comparisons were undertaken during 2012 and gave even larger discrepancies, suggesting that the RC drilling has under-estimated the intersection length and grade (Leu, et al., 2012) (Figure 40):

Pair 2 (11m apart):

- SGRDD004: 18m @ 3.51 g/t Au from 52m (0.5 g/t Au cut-off)
- SGRRC011: 11m @ 1.48 g/t Au from 52m (0.5 g/t Au cut-off)

Pair 3 (10m apart):

- SGRDD002: 21m @ 3.41 g/t Au from 18m (0.5 g/t Au cut-off)
- SGRRC002: 15m @ 0.99 g/t Au from 18m (0.5 g/t Au cut-off)

We note that, in the 2012 testing, the drillhole pairs were 10-11m apart, not 2m as for the 2011 pair. Geos Mining compared the results of the paired drillhole assays, and observed that, using a 0.5g/t gold cut-off, the intersection lengths were similar or longer in the diamond drillholes than for the RC pairs. However, the average gold grades are significantly higher in the diamond drillholes in all three cases (Figure 40). In our opinion, this difference may be attributed to sampling methods and/or the presence of coarse gold. Future drilling programs should take this variability in mind when deciding on the type of drilling, sampling methods and sampling QAQC.

PAIR 1				PAIR 2				PAIR 3			
SGRDD014		SGRRC005		SGRDD004		SGRRC011		SGRDD002		SGRRC002	
	8.59	12.75			0.69	0.68			0.51	0.65	
	5.37	1.45			5.61	0.44		20	0.74	0.48	20
	1.29	2.14		55	0.02	0.54	55		0.33	0.38	
25	15.4	1.71			0.83	0.36			0.34	0.7	
	2.51	0.97	30		0.42	0.83			0.62	0.65	
	2.6	1.35			2.47	5.2			0.93	0.95	
	0.59	1.55			19.6	2.12		25	5.28	0.99	25
29	6.82	0.74	33	60	5.27	1.52	60		0.88	0.51	
					7.71	1.53			0.54	2.67	
					6.09	2.13			10.5	1.16	
					3.58	0.88	63		5.05	0.65	
					7.55			30	5.28	0.26	30
				65	0.47				0.29	2.31	
					0.22				0.18	1.55	
					0.85				0.27	0.93	
					0.33				0.69	0.25	
					0.65			35	0.67	0.11	35
				70	0.87				15.2	0.04	
									22.5	0.16	
Each sample interval is 1m									0.32	0.80	38
								39	0.52		

Figure 40: Twinned drillhole pairs showing gold grade (g/t) comparisons

Depth markers in metres. Each sample interval was 1m.

GOLDSWORTH MINE

A total of 18 RC drillholes (for 1,404m) were drilled by Sovereign Gold during 2011 (Table 14, Figure 41). Most drillholes were designed to test the linear magnetic anomaly on which the mine is located and all drillholes intersected sulphidic and altered meta-sediments with quartz veining. Mineralisation consisted of narrow zones of low gold grades, with better intersections (>0.5 g/t Au cut-off) being:

- SGRRC054: 3m @ 1.45 g/t Au from 101m depth
- SGRRC055: 2m @ 0.94 g/t Au from 43m depth
- SGRRC060: 7m @ 0.82 g/t Au from 22m depth

Elsewhere, only scattered single 1m intervals reported assays greater than 0.5 g/t gold.

The GSNSW mineral occurrences data mentions that the historical shaft was bulldozed in and Google Earth imagery does not clearly show the location of the Goldsworth Mine. Sovereign Gold reported that the alteration zone associated with the magnetic structure was detected in costeans and some of the drillholes intercepted old stopes (Leu & Roberton, 2011).

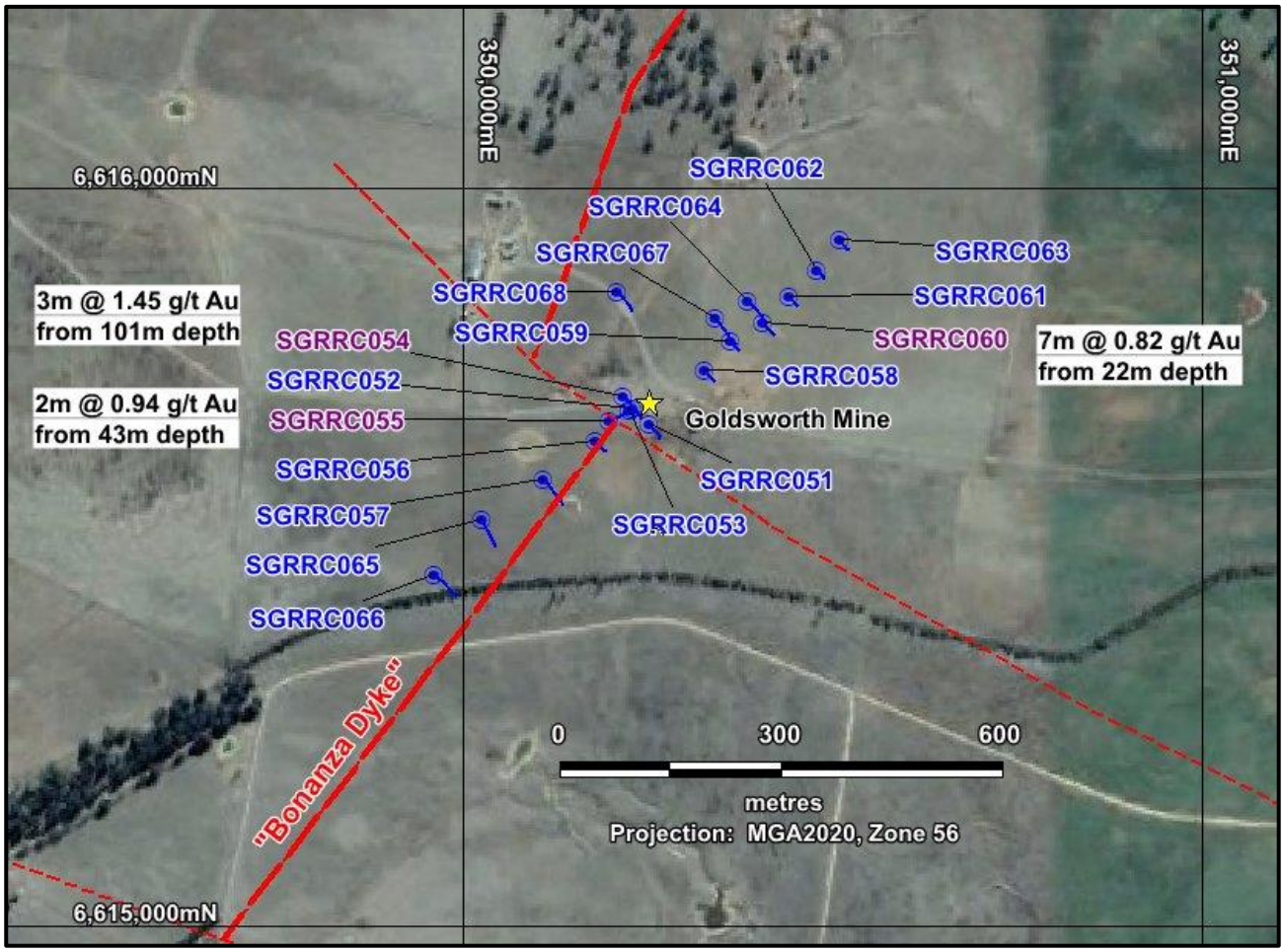

Figure 41: Goldsworth Prospect RC drillhole locations & significant assay intervals

Major structure interpreted from aeromagnetic data

Sovereign Gold later undertook a grid soil sampling program over the Goldsworth Mine and extensions along strike to the northeast and southwest (Figure 26, Section 8.6). The area was also covered by the 2011 airborne magnetics survey, flown after the completion of the 2011 drilling program. Data from this survey for the Goldsworth Mine area is currently not available.

VICKERS PROSPECT

A total of seven shallow RC drillholes (for 463m) were drilled by Sovereign Gold in 2011 (Figure 42) (Leu & Roberton, 2011). Widespread alteration was reported by Sovereign Gold, but only two narrow zones of silver-arsenic-gold mineralisation were intersected:

- SGRRC023: 2m @ 0.02 g/t Au, 57g/t Ag and 5.2% As from 21m
- SGRRC024: 1m @ 3.08 g/t Au, 54g/t Ag and 7.8% As from 33m

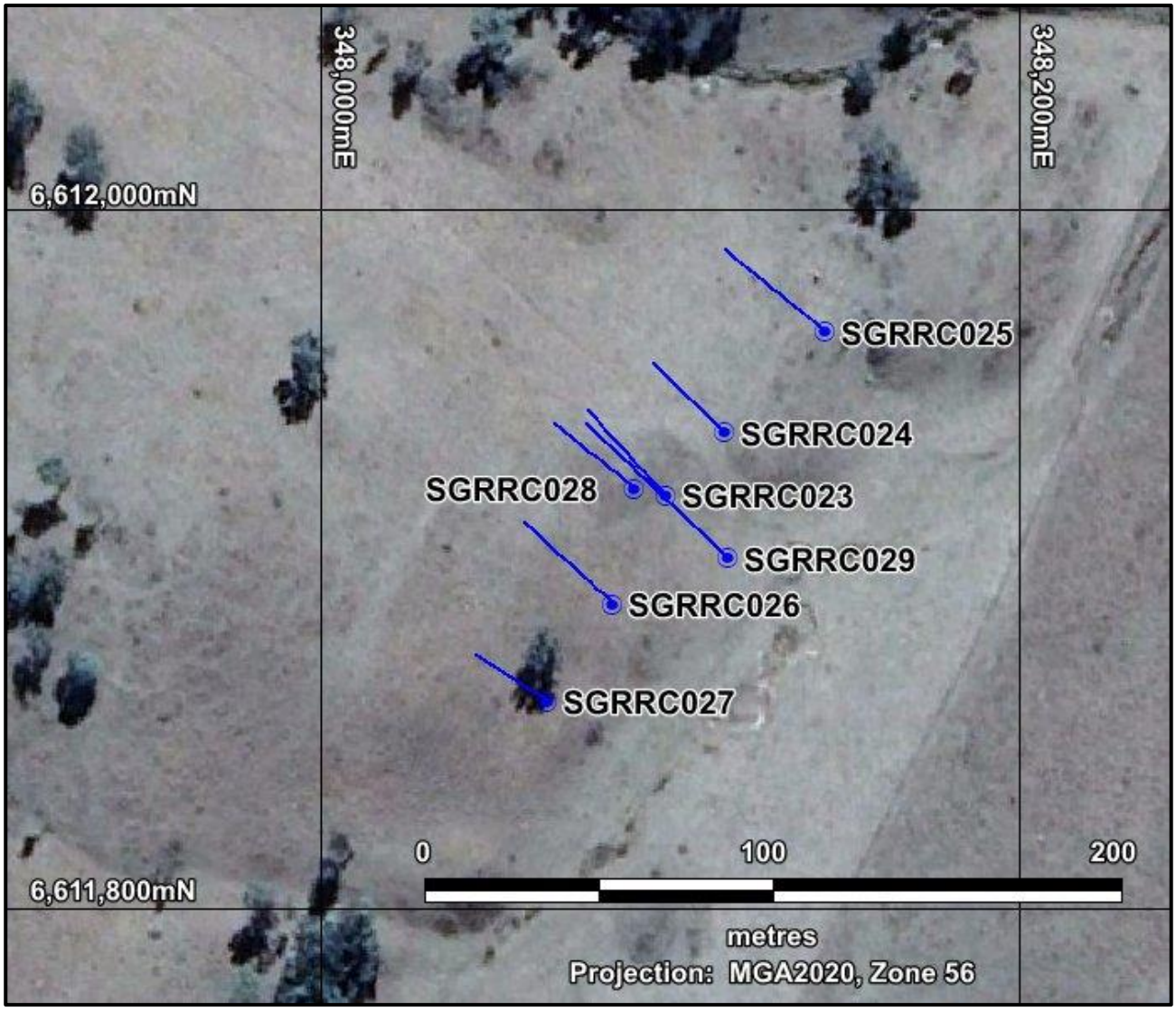

Figure 42: Vickers Prospect RC drillholes

GRACIE - LITTLE GRACIE MINES

During 2011, Sovereign Gold completed two shallow Diamond drill holes holes (for 146m) at Gracie Mine, one Diamond drill hole hole (for 70m) and three RC holes (for 131m) at Little Gracie (Leu & Roberton, 2011) (Figure 43). Only weak mineralisation was intersected with Sovereign Gold reporting that the lode below the Gracie Mine workings is only very narrow (0.25m wide in drillhole SGRDD012, 95.5-95.75m: 0.35g/t gold, 10.7g/t silver, 3.3% arsenic and 125ppm antimony). However, they noted that "historical records show this vein contained bonanza shoots of gold running ounces per tonne" (Leu & Roberton, 2011).



Figure 43: Gracie & Little Gracie prospects drillholes

Wilsons Creek Shaft

A total of 6 DD holes (for 320m) were drilled by Sovereign Gold in 2011 (Figure 44) (Leu & Roberton, 2011). The locations of old pits and shallow shafts indicates that mineralisation may extend over a strike length of at least 660m, according to Sovereign Gold, yet only very weak mineralisation was intersected by the drilling. The best result was 1m @ 0.56g/t Au and 1.6% As from 47m in drillhole SGRDD016. Two drillholes, SGRDD019 and SGRDD020, reportedly intersected an extensively altered (sheeted vein) diorite dyke over 20m downhole depth, but the best assay was only 1m @ 0.56g/t Au from 9m depth in drillhole SGRDD019.



Figure 44: Wilsons Creek Shaft prospect drillholes

FRASER'S FIND

Sovereign Gold drilled a total of 13 shallow Diamond drill holes (for 370.5m) in 2012 (Figure 45) (Leu, et al., 2012). They purchased their own 4WD-mounted drill rig for this program in order to minimise costs and limit surface damage. However, the rig was only capable of drilling small diameter (BQ, 37.5mm) core. As a result, "Low or zero core recovery of the main gold lode occurred in 8 of the diamond drillholes. This resulted either from encountering old workings, water loss hole abandonment prior to target or brittle/soft nature of mineralisation" (Leu, et al., 2012). Furthermore, the orientation of the drillholes (dip and azimuth) was not recorded and the storage of the drill core is unknown.

Sample volume is critically important when assaying for precious metals, where mineralisation is expected to be nuggety; HQ diameter core (63.5mm diameter) is the minimum preferred standard. As a result, Geos Mining recommends caution when reviewing the assay results from these drillholes.

We also note that limited assaying of core was carried out by Sovereign Gold, probably because of the low core recoveries or because only narrow zones of mineralisation were noted in the logging. Sampling intervals totalled only 30.5m from the drilling total of 370.5m. The 98 sampling intervals ranged from 0.02m to 1.55m and averaged 0.31m.

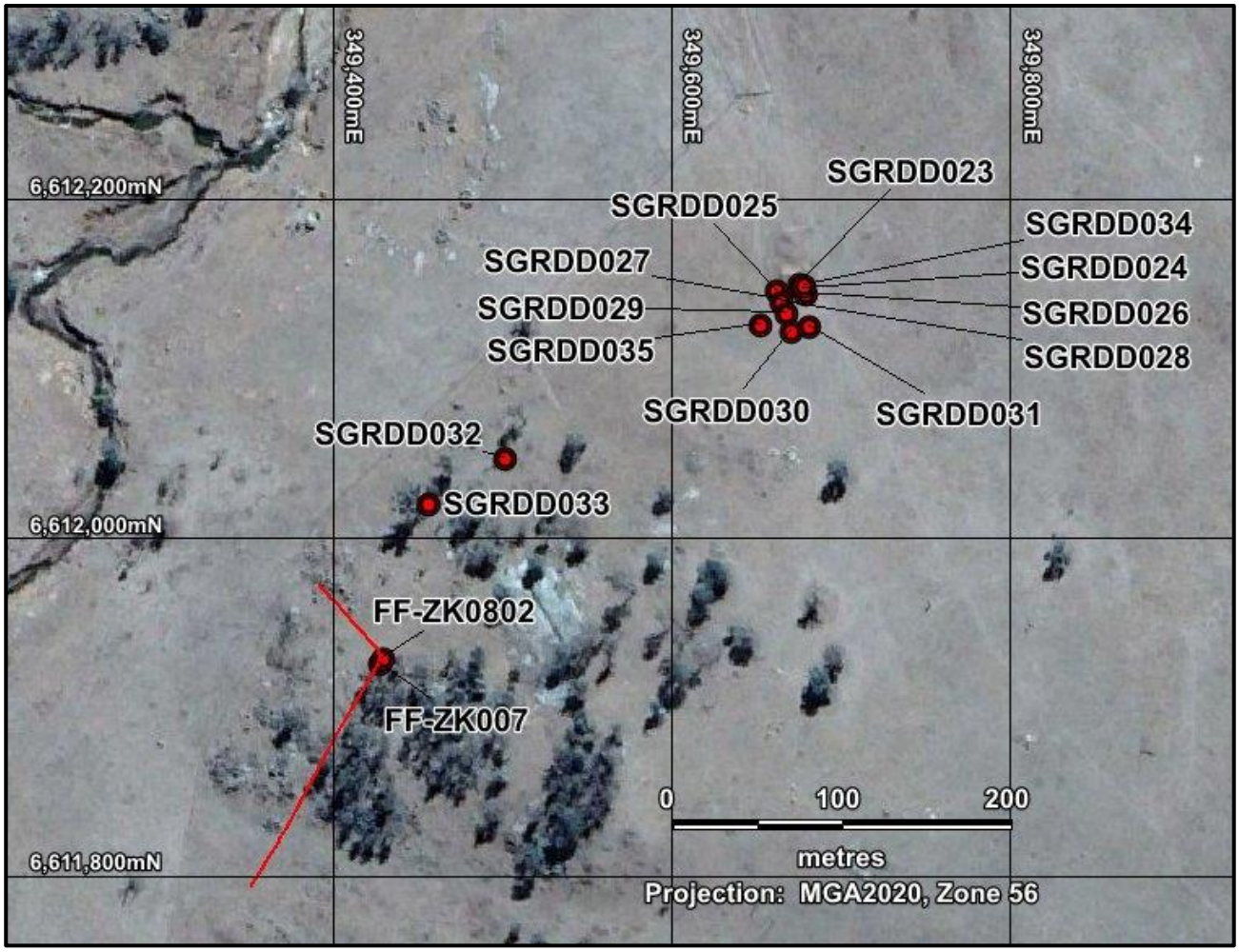

Figure 45: Fraser's Find prospect drillholes

High grade gold mineralisation was intersected over narrow widths, including:

- SGRDD023: 0.6m @ 14.3g/t Au, 141g/t Ag, 0.75% Pb and 5.2% As from 11.1m
- SGRDD029: 0.25m @ 4.6g/t Au, 160g/t Ag, 1.01% Pb and >9.8% As from 27.0m
- SGRDD030: 0.7m @ 1.2g/t Au, 6g/t Ag, 1.01% Pb and 3.0% As from 38.26m

Sovereign Gold's joint venture partner, Sugec Mining, completed two more diamond drillholes totalling 391.9m in 2015 (FF-ZK007 & FF-ZK0802). Although, according to Leu, et al., 2015, the drilling confirmed the extension of the narrow gold bearing structure, only ten intervals totalling 6.13m were sampled. The mineralisation intersected was reportedly quite weak, with highest assay results only 0.35g/t Au, 2.97g/t Ag, 2% As (Leu, et al., 2015).

Other Prospects

Three diamond drillholes were completed by Sovereign Gold at Melvaine's in 2013 but significant gold grades were intersected in centimetre wide veins only (Leu, et al., 2013). Drillhole collar orientation information for these drillholes was not reported.

8.9. Mineral Resources

There are no Mineral Resources compliant with the JORC Code 2012 within the Uralla Project.

8.10. Opportunities

Previous exploration has identified several prospects containing zones of narrow, but high-grade, gold mineralisation. These prospects appear to be associated with major structures that have been interpreted from airborne magnetics surveys. The IRGS model investigated by Sovereign Gold appears to be geologically viable.

Rock chip sampling programs by Lode and other companies have identified high-grade gold mineralisation, with associated high arsenic values, within pervasively altered and quartz veined metasediments. The mineralisation appears to be structurally controlled, especially the NE-trending Bonanza Dyke structure and possible splays. The widespread and pervasive alteration indicates that the mineralisation is not restricted to thin quartz veins, as had previously been interpreted. The close association between gold mineralisation and elevated arsenic values enables the use of arsenic as a pathfinder element in geochemical sampling to define zones of alteration and mineralisation.

The IP geophysics survey has successfully defined significant chargeability anomalies at the four prospects that were tested. The broad shapes of these anomalies suggest disseminated sulphide mineralisation that could be intrusion related. Of particular interest is the large open-ended chargeability anomaly at the southern end of the McCrossin's survey area and the broad anomaly within the Hudson's area, which has not been tested by the historical drilling at Gracie prospect.

Martin's Shaft shows sufficient potential to warrant further drilling to test for extensions at depth as well as the IP anomalies to the north and south of the historical workings. Mineralised intersections in the drillholes beneath the historical workings appear to be narrow and with limited tonnage potential. Therefore, high gold grades need to be intersected to make this occurrence of further interest. In contrast, the broad IP anomalies to the north and south of the historical workings suggest the presence of disseminated mineralisation envelopes around the structurally controlled feeder zones.

In our opinion, the previous exploration undertaken on the Fraser's Find was inadequate in that the shallow drilling by Sovereign Gold utilised a core that resulted in very poor core recovery and the drillholes intersected underground workings. The single line of IP geophysics has identified a broad chargeability anomaly that can be used to define drilling targets.

At Goldsworth Mine, it appears that the locations of the drillholes have not tested the interpreted structures that are likely to be the focus for mineralising fluids. Furthermore, interpretation of the soil

sampling and airborne magnetics have not been compared to the drilling results to define additional targets.

The semi-circular magnetic feature interpreted from the 2011 magnetic survey between Fraser's Find and Diggers Shaft has not been followed up to determine if it is associated with mineralisation. However, this feature remains as a conceptual target only. IP geophysics and grid soil sampling are recommended to define drilling targets.

Other conceptual targets are the intersections between the major structures that have been interpreted from the airborne magnetics surveys. Ground follow-up with geological mapping, geochemical sampling and IP surveys is recommended for these targets.

We have not fully investigated the potential in the alluvial occurrences. However, from our assessment of the historical data and consideration of the likely landholder / environmental restrictions, we do not recommend this style as a viable exploration target for Lode at Uralla.

8.11. RECOMMENDATIONS

Recommendations for exploration programs for EL8980 are:

- RC drilling of the IP anomalies detected at Hudson's, McCrossin's, Martin's Shaft and Fraser's Find prospects. Careful selection of drillhole orientations is recommended to ensure that the drillholes intersect the controlling structures
- Coverage of the Vickers prospect to Gracie prospect area with grid soil sampling using a portable XRF analyser tuned to detect arsenic, lead and zinc anomalies as pathfinder elements for the gold mineralisation. Anomalous zones may be tested with RAB drilling to better define the zones
- Follow-up diamond drilling to better define any significant mineralised zones
- Extend the IP survey at McCrossin's prospect to close off the anomaly to the south.

9. Fender Project (EL9003)

9.1. Mining History

Several small historical copper workings are located within EL9003, the most productive being Fischer's Copper Mine (2,643t @ 13.4% Cu), Trough Gully (2,752t), Mulla Creek, Woolomin and Mount Pleasant prospects (Figure 46).

Fischer's Copper Mine was first reported in 1885 (Carne, 1908) and has undergone intermittent small-scale production up to the 1960s. Copper mineralisation is localised along a near-vertical shear zone and subsidiary shears and joints within steeply-dipping jasper and siltstone. In the oxidised portion of the mineralisation, copper minerals consist of cuprite, malachite, azurite, chalcocite and native copper (Suppel, 1969). Massive pyrite bands were mapped along the main underground drive developed in 1970 (Staude, 1970) and also reported in percussion drillholes in 1971 (Mustard, 1971b).

The Trough Gully Copper Mine, approximately 5km north of Fischer's, was first reported in the 1899 Annual Report of the Department of Mines (Relph & McClatchie, 1961). The mineralisation is similar to Fischer's in form and size, being primarily copper carbonates hosted by sheared mudstone, phyllite, siltstone and jasper, although banded pyritic ore was also found close to the surface. Small parcels of high-grade copper ore were despatched from the mine from 1899 to 1916 (Relph & McClatchie, 1961) and a reverberatory furnace was erected at the site in 1908 (Carne, 1908).



Photo 5: Trough Gully lower adit

At the Mount Pleasant Copper Mine, CS Wilkinson reported "Mr T Hole has had a shaft 50 feet deep sunk in prospecting for a copper lode where the altered red jasperoid slates are traversed by a small irregular vein a few inches thick of gossan, quartz and serpentinous clay containing carbonates of copper" (Carne, 1908).

The Limbri goldfield in the northern part of EL9003 consists of alluvial workings and nine shallow gold diggings on gold-bearing quartz veins and stockworks hosted by jasperoid chert horizons.

Manganese occurrences, generally of limited extent, are scattered throughout the area, but production from these occurrences is not recorded.

9.2. Historical Exploration

Previous exploration on the area covered by EL9003 is summarised in Table 16. There has been considerable geochemical sampling carried out, but only minor geophysical surveys have been completed. Drilling has been limited to only one prospect, Fischer's Copper Mine.

Tenement	Company	Years	Comments
EL0464	FISCHERS COPPER MINE PTY LIMITED	1971 - 1972	Soil & rock chip sampling on Mt Pleasant prospect. Ground geophysics and soil sampling, percussion drilling (11 drillholes, 385m) at Fischer's Copper.
EL0563	ELECTROLYTIC ZINC COMPANY OF AUSTRALASIA LTD	1972 - 1974	Geochemical sampling & magnetic susceptibility readings at Woolomin copper prospect.
EL5392	MALACHITE RESOURCES NL	1997 - 1999	BLEG & rock chip sampling at Limbri goldfield Meares, 1999.
EL6509	AUZEX RESOURCES LIMITED	2006 - 2008	Soil & rock sampling. No significant results. No Cu assays.
EL6560	MALACHITE RESOURCES NL	2006 - 2008	Minor stream sed samples. No significant results.
EL6613	PEEL EXPLORATION LIMITED	2006 - 2010	Soil & rock chip samples from Mt Pleasant, Trough Gully & Mulla Creek.
EL7489	GOLD OF OPHIR PTY LTD	2010 - 2012	No targets generated.
EL7768	SUGEC RESOURCES LIMITED	2011 - 2016	Focussed on Abington prospect, west of EL9003.
EL7770	IRGS NORTHERN GOLD PTY LTD	2011 - 2015	Good rock chip samples from Trough Gully, Fisher's & Mulla Creek.
EL8012	SOC1 PTY LTD	2012 - 2013	Small overlap. Focussed on gold prospects to the south of EL9003.

Table 16: Previous Exploration within EL9003

9.3. Geological Setting

In 1971 geological mapping of the EL9003 area was carried out by the (then) Department of Mines. The oldest rocks are serpentinites of Middle Cambrian to Early Silurian age distributed along the Spring Creek Fault and associated structures as a series of discrete, elongate slivers (Figure 46). Woolomin Group and

related units, comprising volcaniclastic lithic sandstone, siltstone and mudstone with subordinate chert, jasper, basalt and diamictite, occur to the west of the Spring Creek Fault.

Sandon Association rocks of Devonian to Early Carboniferous age occur over much of the central portion of the licence area east of the Spring Creek Fault. The Sandon Association strata consist of deep-water origin lithic sandstone, slate, phyllite, chert, jasper, metabasalt, siltstone, mudstone and paraconglomerate.

The Manning Formation is a sequence of Early Permian sediments with some volcanics, occurring as fault slices within the Woolomin Association rocks adjacent to the Spring Creek Fault.

The Late Permian to Early Triassic I-type Moonbi Monzogranite occurs adjacent to the northwestern margin of the tenement.

9.4. Mineralisation Style

The NSW mineral occurrence database NSW Government Spatial Services, 2020 records a total of 27 historical workings within the area covered by EL9003 (Table 17 and Figure 46). All are small in size and comprise a mix of underground shafts and drives, small open pits and gougings. Primary commodities sought were gold ± copper ± manganese.

Styles of mineralisation recognised by GSNSW and previous explorers include:

- Copper dominant VHMS[6] style deposits – Cyprus / Besshi type
- Vein/ stockwork hosted gold deposits
- Tungsten-molybdenum pipes, veins and disseminated deposits
- Porphyry copper-gold deposits
- Podiform chromite deposits (Leggett, 2010)
- Stratiform manganese-rich rocks that host auriferous veins

Name	Comm-odity	Workings	Depth (m)	Comments
Charmant Vue Manganese	Mn	OP and shafts	2	A shallow shaft and a small OP have been excavated in what are probably two very small manganiferous pods within jasper.
Cockburn River Prospect	Au	UG, OP and shafts	15	The lode comprises a 0.70m wide quartz vein with a 1m wide manganiferous lode on its Western side. Dump sample returned 2.05ppm Au (Meares, 1999).
Edward's prospect	Cu	UG and shafts	6	Single inclined shaft. A 0.6 m wide gossan with some malachite.

[6] VHMS = Volcanic Hosted Massive Sulphide

Name	Comm-odity	Workings	Depth (m)	Comments
Fischer's Copper Mine	Cu	OP, UG, shafts, drives	40	Seven massive sulphide lenses are exposed in the workings; the largest lens is approximately 23m long and up to 2.5m wide. Reported to have produced 2643t at an average grade of 13.4% Cu, the Fischer's Mine operated over the periods 1899-1900 and 1968-1974 (Blayden, 2007a). Assays of mineralisation from Fischer's Copper Mine showed the mineralisation contained about 30 grams/tonne silver and 1.5-3 grams/tonne gold (Robertson, 2015a).
Givney's Reef	Au	UG and shafts	2	Single shaft and a bench cut into the hillside. Reef production to 1883.
Gordon's Shaft	Au	UG and shafts	10	No obvious lode. Minor quartz veinlets, disseminated pyrite cubes and minor gossanous material.
Graham's Manganese Prospect	Mn	UG, OP, shafts, adits, shallow workings	2	The lode is a zone of siliceous claystone containing pods and lenses of manganese oxides. Lode is 1 to 3 m wide.
Herden's Copper Prospect	Cu	UG, and shafts	10	Copper carbonates occur mainly within the chlorite schist. This occurrence is similar to Edward's and Rasmussen's prospect; probably of volcanogenic origin.
Jersey Gully Prospect	Au	OP and shallow pits	2	A number of pits, including a small open cut, have been sunk on outcrop of a chert bed, 2 m thick and at least 500 m long. The gossan is associated with a network of quartz veins. Meares, 1999, considered that 'there is considerable strike extent of weak to moderate Au mineralisation."
Little Oaky Creek Prospect	Au	UG and shafts		Numerous small pyritic quartz veinlets, up to 3mm wide, are present in the jasper on the dumps.
Mt Pleasant Copper	Cu	UG, shafts, shallow pits	15	Several concordant vertical - sub vertically dipping mineralized zones within a 500m by 50m zone trending.
Mulla Creek Copper Mine	Cu	adits	30	A 0.5m wide gossan, parallel to the main occurrence and 4.5m to the west of it, is exposed at the end of a crosscut off the main adit. Primary grade about 1% Cu. Production 1911-1913 when 12 t of copper ore were produced though the grade is unknown. Sporadic working then took place over the period 1969-1980 (Blayden, 2007a).
New Year's Gift	Au	UG, shafts and adits	15	Fragments of white, vughy quartz, some with comb structure.
Oakview Manganese Prospect	Mn		1.5	Rhodonite with manganese oxides are present in sediments.
Oakview North Manganese	Mn			
Rackham's Reward Mine	Au	UG, shafts and adits	8	Two veins, line of shafts has been sunk on a quartz reef. About 120 m to the north, a tunnel was commenced in 1933 to intersect another reef. Production 1933-4.
Railway prospect	Au	OP	1.5	A small OP has been excavated in a manganiferous lode in chert. Sampled by GSNSW 4.7ppm Au.

Name	Comm-odity	Workings	Depth (m)	Comments
Rasmussen's prospect	Cu	UG, and shafts	10	Copper carbonates appear to be confined to dark green chlorite schist, also siltstones, jasper and claystone. This may be the same unit that is the host rock for Edwards and Herdens prospects.
Spring Creek Alluvials	Au-A	Dredging and/or slucing, shafts and shallow pits,		Production 1897-1910.
Stanning's prospect	Au	UG, and shafts,	17	The lode is possibly in the jasper. Many anomalous samples reported by Malachite with maximum 29.5ppm Au (Meares, 1999)
Stronghurst Manganese	Mn	Adits,		Lode is up to 3m wide and at least 30m long. Mineralisation massive, earthy and occasionally stalactitic to botryoidal.
Thompson's prospect	Au	Shafts and shallow pits	4	The Lode appears to be a brecciated chert with siliceous veinlets and vughs, locally gossanous.
Trough Gully Copper Mine	Cu	UG, OP, shafts and adits	30	The lode is over 60 m long up to 4m wide and more than 30 m in depth. Contains up to 80% pyrite and banded. Average grade 2.2% copper, 1.2% zinc and 9.7 ppm silver. Production from this mine totalled 2752 t of ore with 1315 t smelted for copper and 787 t used in the production of sulphuric acid. This production took place periodically over the period 1899 to 1916 (Blayden, 2007a).
Weaver's Reef	Au	UG, shafts and shallow pits	11	The reef appears to have been a thin, vughy, quartz vein, about 10-20 mm thick, in basalt.
Woolomin Mine	Cu	UG, shafts and adits	43	The lode is approximately 0.3m wide. The workings consist of 2 shafts, some shallow pits and a 104m long adit that intersects the old 43m deep shaft. Production between 1910-1912.
PeelEx 1-004	Cu	Nil	0	Exploration target based on airborne magnetics and Cu anomalies in stream sediments.
PeelEx 1-001	Cu	Nil	0	Exploration target based on airborne magnetics and Cu anomalies in stream sediments.

Table 17: Mineral Occurrences within EL9003

Many previous explorers commented that the copper occurrences were their prime targets, being classified as massive, stratiform cupriferous pyrite lenses (Haslam, 1973). Malachite Resources noted that the main targets are "syngenetic exhalative gold mineralisation and epigenetic structurally-controlled gold mineralisation" (Meares, 1999). Malachite considered that the manganese-rich horizons "probably represent oxidised, submarine exhalative stratiform manganese deposits".

Sovereign Gold (EL7770) determined that the pyritic copper occurrences are "probably volcanic submarine exhalative in origin" ('Cyprus-style') (Robertson, 2015c). Where field relationships are clear, these occurrences are seen to be conformable, lenticular, sulphide bodies, intimately associated with heavily

pigmented jaspers and altered basaltic, probably tholeiitic, volcanics. Occasionally, a number of separate lenses have been recorded from the same locality, e.g. Mt Pleasant, Mulla Creek, Fischer's Copper and Trough Gully. Analyses of mineralisation from most of the copper occurrences verify that copper, zinc, titanium, manganese, lead and cobalt are present in decreasing order of abundance.

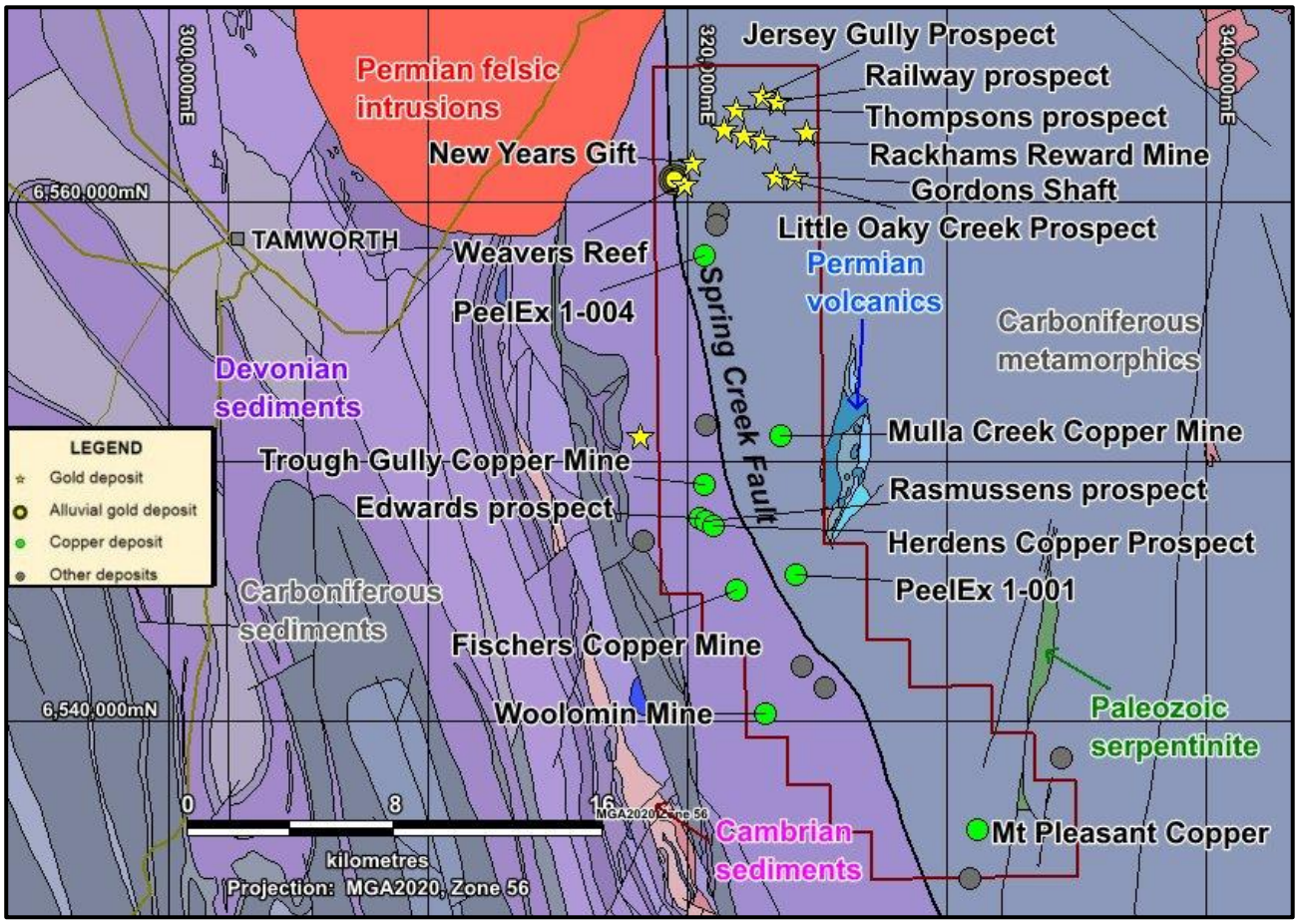

Figure 46: EL9003, Geological Setting and Mineral Occurrences

9.5. PROSPECTS

The Trough Gully and Fisher's Copper workings have received particular attention, with Blayden, 2007a noting that the VHMS style occurrences are favourably located within and to the west of the Peel-Manning Fault System (locally termed the Spring Creek Fault). The occurrences vary greatly in size from small areas of copper carbonate staining up to deposits such as Trough Gully and Fischer's Copper, from which 2,572t and 2,643t of ore, respectively, were produced (Blayden, 2007a). The mineralisation is characteristically massive to mineralogically banded, comprising, in decreasing abundance, pyrite, chalcopyrite, bornite, sphalerite and magnetite with small amounts of gold as well as bismuth, lead and manganese minerals.

Primary mineralisation at Trough Gully copper mine includes pyrite, chalcopyrite, sphalerite, bornite, and proustite, while secondary mineralisation includes chalcocite (McCrae, 2007). Gangue minerals include calcite and quartz. The main lode was reportedly "at least" 42m in strike, up to 5 m wide and 30m in "proven depth". The lode remains open to the north and south as well as down dip. Exploration programs

in 1960s to early 1970s comprised surface and underground mapping, IP, and magnetics. Eight underground samples returned average grades of 2.2% Cu, 1.2% Zn, 13 ppm Ag, and trace Au while zinc values were reported as "increasing with depth". IP and magnetic anomalies were defined but have not been tested. Seven rock chip samples taken by Newmont (1980) returned individual assays of up to 1.6% Cu, 2.6% Zn, 55ppm Ag, and 0.75ppm Au.



Photo 6: Trough Gully mineralisation

In the mineral occurrences within the Limbri Goldfield at the northern end of EL9003, Blayden, 2007a, determined that the stratiform manganese rich rocks are host to auriferous veins on the eastern side of the Peel-Manning Fault. The gold mineralisation is believed to result from hydrothermal activity related to regional deformation and the intrusion of nearby Moonbi Adamellite with subsequent remobilisation from the exhalative sediments.

Peel Exploration defined two copper exploration targets based on magnetics interpretation and Cu anomalies in stream sediments. PeelEx 1-001 occurs ~2.4km east of Fischer's Copper Mine, on the eastern side of the Spring Creek Fault (Figure 46, Figure 48). PeelEx1-004 (also known as Kasey prospect) occurs on a NNE-trending ridge in the northern part of EL9003, along strike from the Oakview manganese occurrence.

9.6. GEOCHEMISTRY

Stream sediment surveys were completed by several early explorers, including Fischer's Copper Mine (EL0464), Electrolytic Zinc (EL0535) and Peel Exploration (EL6613), together with rock chip, soil and more recently, portable XRF sampling. In 2004, the Geological Survey of New South Wales compiled a database of historical stream sediment sample assays and these have been used to generate a thematic map for copper geochemistry for EL9003 (Figure 47). Other elements either did not have sufficient assay results within the EL9003 region or did not shown any significant anomalism.

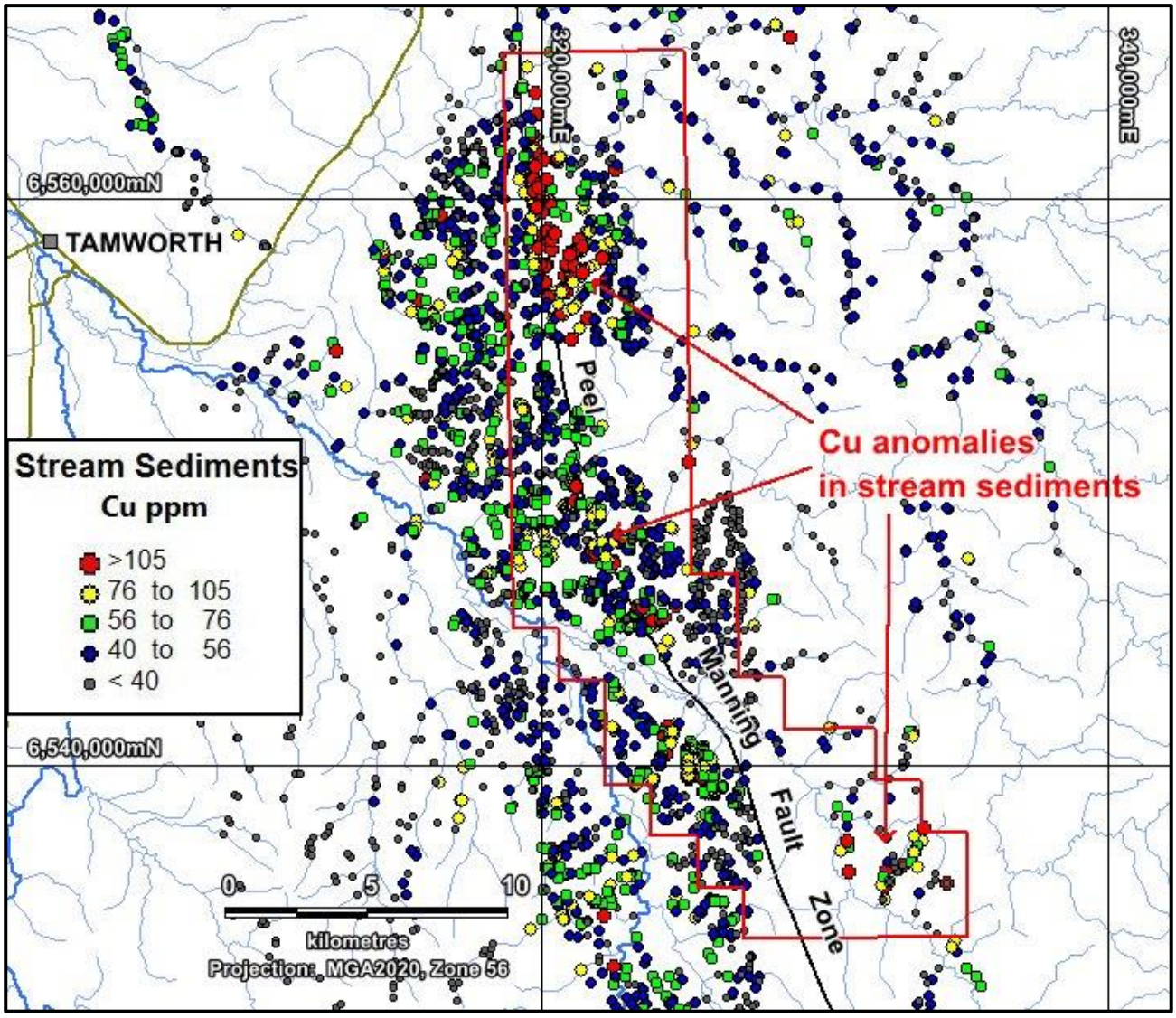

Figure 47: EL9003, Cu-values in Stream Sediments

Three clusters of higher copper results occur in the northern, central and southeastern areas of EL9003 (Figure 47). All three areas are located along and/or to the east of the Peel-Manning Fault Zone. McCrae, 2007, considered that the copper clusters are lithologically related, rather than indicating mineralisation.

The threshold for the highest range for the assay results (>105ppm Cu, representing the top 3% of samples) is only 2.5x the level of the lowest range (<40ppm Cu, representing the bottom 52% of samples). In Geos Mining's opinion, based on many years of assessing regional geochemical results, this is not a highly anomalous factor. The clusters may be purely related to copper-rich lithologies caught up in the Peel-Manning Fault Zone; but they may also relate to localised occurrences of high background lithologies as indicators of copper mineralisation. Therefore, further analysis of the 'anomalous' areas is required.

Fischer's Copper Mine completed soil sampling over grids covering the Fischer's copper mine and the Mt Pleasant copper mine. Small anomalous zones were detected at both prospects. Percussion drilling tested the Fischer's copper anomalies and Kennecott Explorations Australia ('KEA') followed up the Mt Pleasant results with further soil and rock chip sampling. KEA concluded that their sampling failed to extend the strong copper anomaly, which was "probably associated with copper carbonate mineralisation in jasperitic rocks" (Hay & Turner, 1972).

Peel Exploration completed geochemical surveys over several prospects within EL6613 during 2008-09 (Leggett, 2010), including:

- Niton portable XRF surveys over the Trough Gully, Mt Pleasant and Mulla Creek prospects
- Rock chip sampling at Kasey and several other prospects
- Soil sampling at Kasey, Trough Gully, Mulla Creek and Mt Pleasant

Peel believed that the area was under-explored and intended to undertake drilling programs on EL6613, but the tenement was relinquished due to commitments on other projects.

9.7. GEOPHYSICS

Fischer's Copper Mine Pty Ltd undertook a program of EM, ground magnetics and self-potential geophysics surveys over a 240m x 600m grid surrounding the Fischer's copper workings in 1971 (Mustard, 1971b). Anomalous areas were tested by a program of 11 percussion drillholes (Section 9.8).

Peel Exploration completed an airborne magnetics and radiometrics survey over EL6613 in 2008 (Tyson & Leggett, 2009). The RTP magnetics for this survey has been combined with regional magnetics flown by GSNSW in Figure 48. The processed magnetics shows a NW-trending dislocation associated with the Peel River. This feature may be responsible for a kink in the Spring Creek Fault near the Fischer's Copper Mine.

Near the intersection of the Spring Creek Fault and the Peel River, a magnetics feature coincides with anomalous Cu values from stream sediment sampling, which occur in streams draining a prominent hill. (Figure 48, Figure 49). Indigeo Consultants completed an interpretation of the Peel Exploration aeromagnetic data and described this anomaly, labelled as "1-001", as very high priority, with "possible remobilisation and concentration of mineralisation" in a "fold nose (and extensional regime) of undifferentiated Devonian sediments" (Tyson & Leggett, 2009). However, the circular feature defined by the magnetics anomaly and drainage patterns could also be interpreted as being due to an underlying intrusion with the magnetics high on the northern rim being due to magnetite or pyrrhotite-bearing mineralisation.

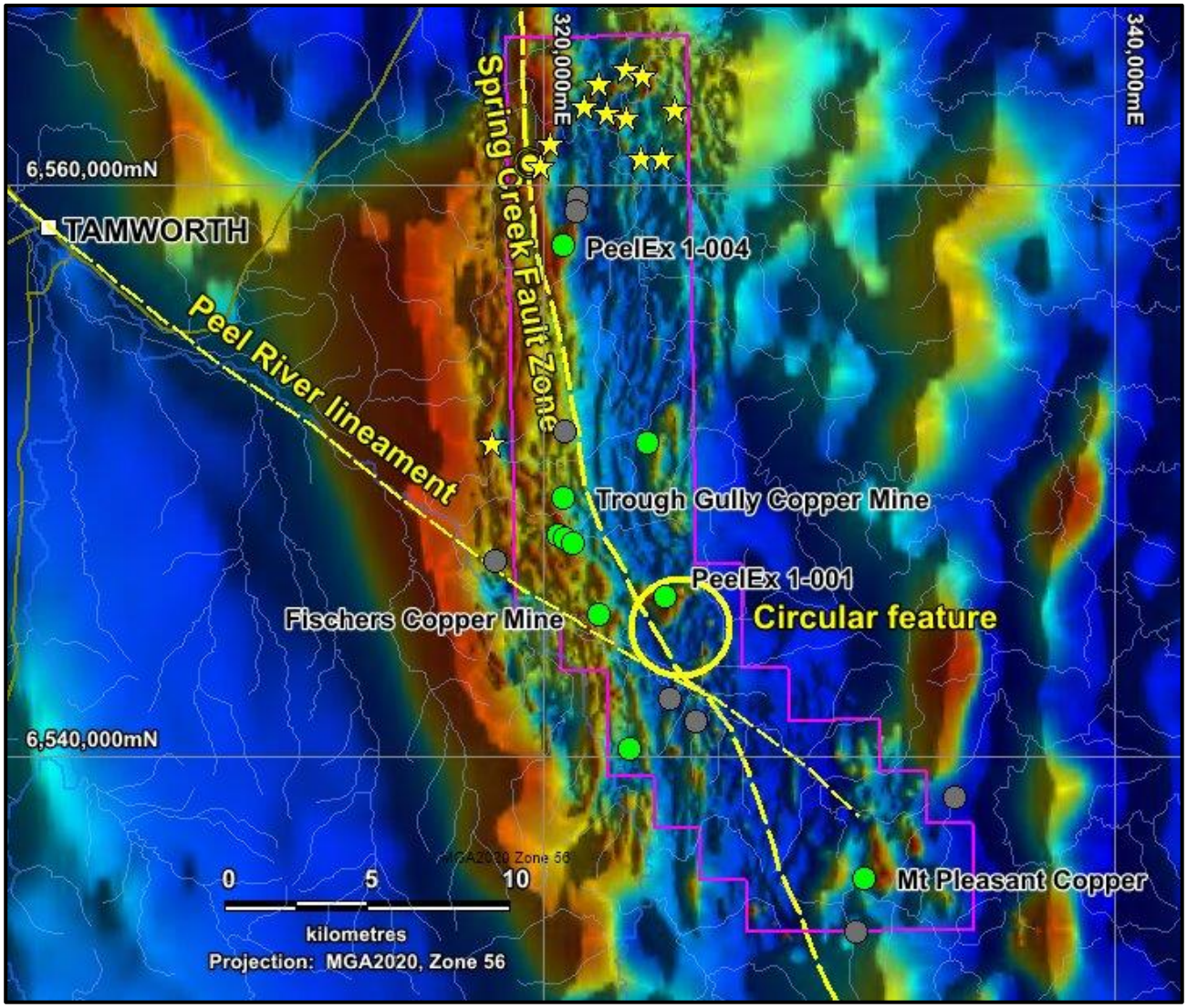

Figure 48: EL9003, airborne magnetics RTP

The coincident magnetics anomaly / Cu-in-stream sediments anomaly named "1-004" in the northern part of EL9003 (also known as the Kasey prospect) was interpreted by Indigeo Consultants as being due to structural dislocations and local folding, with an apparent magnetic spur offset from the Peel Fault. This anomaly occurs at the top of a prominent NNE-trending ridge that lines up with two manganese occurrences about 1.25km north (Figure 50). Anomalous copper values were returned from stream sediment samples in drainages on both sides of this ridge.

Peel followed up the Kasey (1-004) anomaly with ridge-and-spur soil sampling and rock chip sampling, but there were no significant results. There were no descriptions of the rock chip samples, so the reason for the magnetic anomalism and copper anomalies remains unexplained. Further exploration is warranted for these prospects.

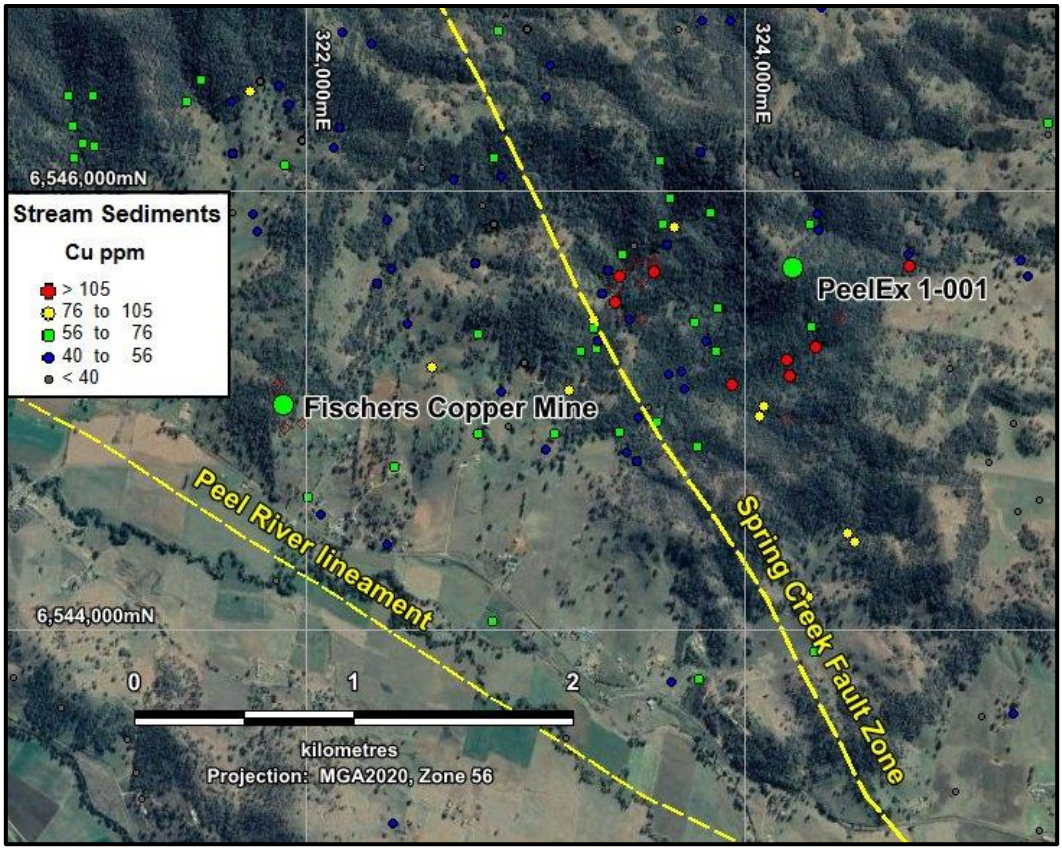

Figure 49: PeelEx1-001 anomaly, stream sediment Cu

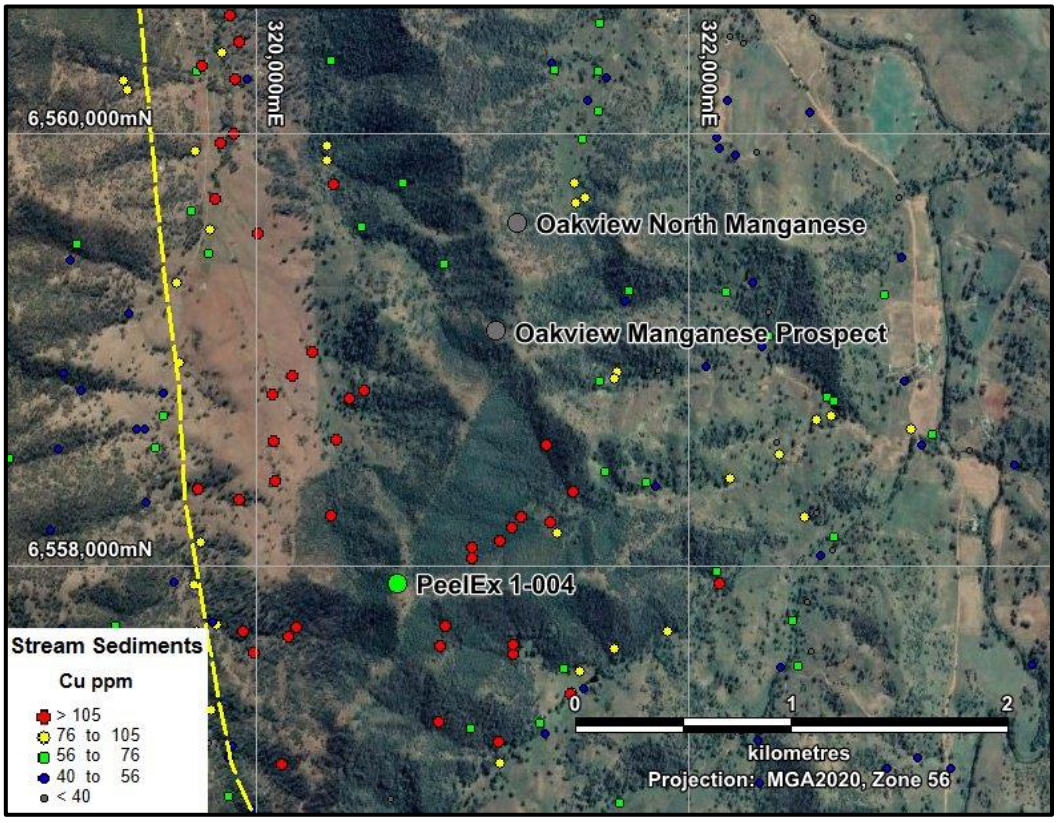

Figure 50: PeelEx1-004 anomaly, stream sediment Cu

9.8. DRILLING

The only reporting of any drilling being completed within the area of EL9003 was by the Fischer's Copper Mine Pty Ltd (Blayden, 2007a). The drilling comprised 11 percussion drillholes totalling 385m with the deepest at 56m. The drilling was undertaken based on a local grid in feet and the collar locations do not appear on the Minview website. However, a plan from the Fischer's Copper Mine report (Mustard, 1971b) was georeferenced by Geos Mining using topographic features and the drillhole collars and underground workings were digitised from the plan (Figure 51).

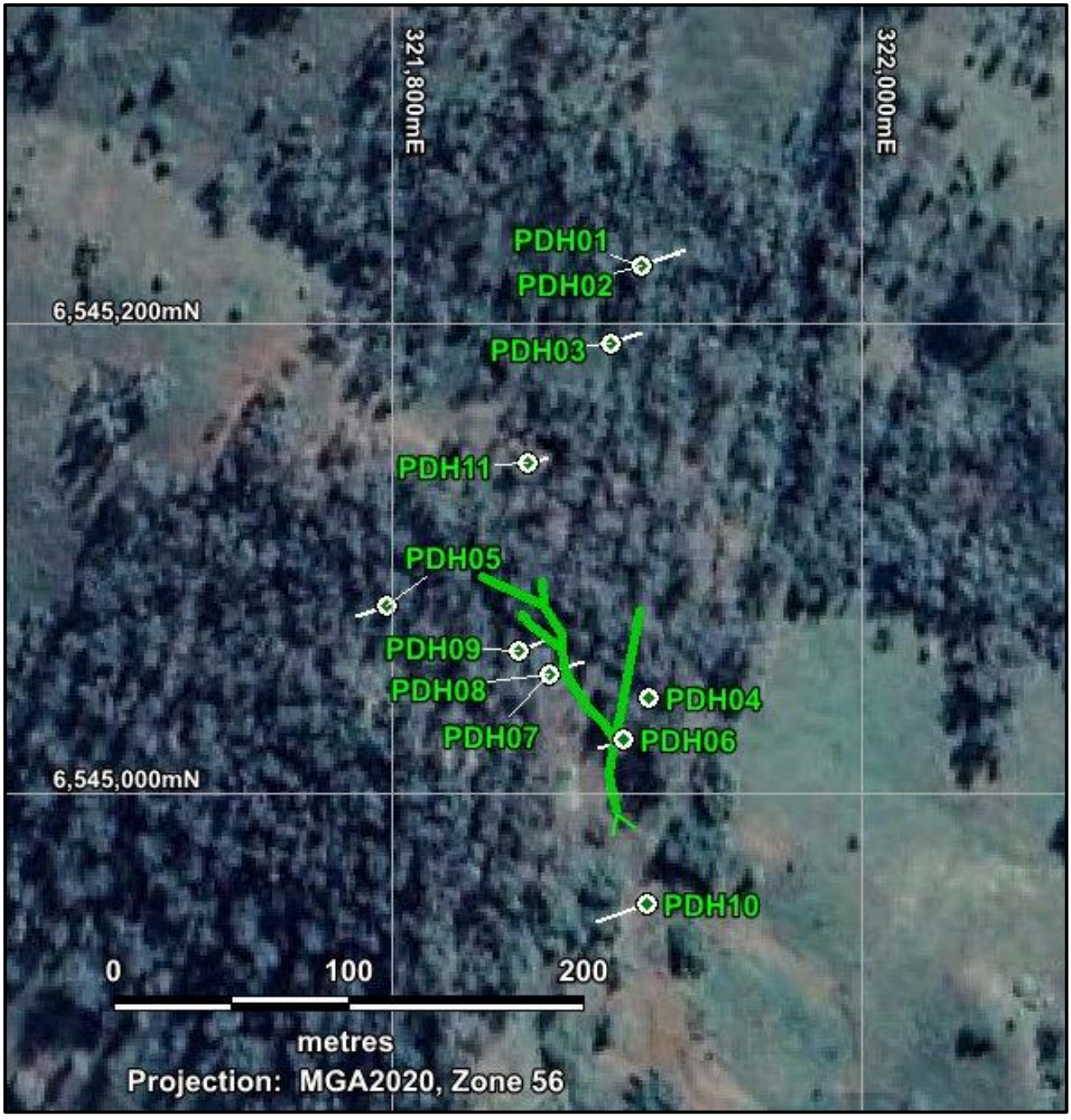

Figure 51: Fischer's Cu Mine percussion drillholes and underground mine workings

Hole_ID	East (MGA20, Z56)	North (MGA20, Z56)	RL	Dip	Azim	Length
PDH01	321905	6545224	564	-46.5	070	30.5
PDH02	321906	6545224	564	-55	070	30.5
PDH03	321893	6545191	561	-67	070	35.1
PDH04	321909	6545041	530	-90	070	22.6
PDH05	321798	6545080	541	-60	250	28.3
PDH06	321899	6545023	527	-70	250	35.1
PDH07	321867	6545051	539	-55	070	26.5
PDH08	321867	6545051	539	-83	070	50.3
PDH09	321854	6545061	542	-77.5	070	55.8
PDH10	321908	6544953	509	-51	250	35.1
PDH11	321858	6545140	553	-76	070	35.1

Table 18: Fischer's Copper Mine drillholes

Note: Collar co-ordinates determined from georeferenced map in Mustard, 1971b

Only one drillhole (PDH06, total length 35.1m) intersected significant mineralisation (converted from sampling depths in feet):

- PDH06, 3.95m @ 0.54% Cu from 0.3m depth
- PDH06, 6.08m @ 0.35% Cu from 18.3m depth
- PDH06, 4.56m @ 2.45% Cu from 25.9m depth

PDH06 was drilled above and towards the west of the underground workings. There is insufficient information to determine the significance of the deeper intersection in PDH06, which may be a separate lens of mineralisation not intersected in the mine workings.

Overall, the results of the drilling did not support continuation down dip and along strike of the Fisher's copper mineralisation (Mustard, 1971b).

9.9. Opportunities & Recommendations

In 2007, a review of the data by an independent geologist (Blayden, 2007a) suggested that the occurrences are far from adequately explored, either in terms of detailed mapping, by geophysical means or by drilling. Drilling has been carried out at only at one prospect (Fisher's Copper) and the better grade mineralisation in drillhole PDH06 was not followed up.

Further exploration programs of detailed geochemistry, geophysics and drilling are warranted to evaluate the potential for economic mineralisation at the known occurrences. We consider that further exploration should have as an objective the drill testing of the better of the prospects, especially the Trough Gully, Fisher's and Mt Pleasant prospects.

Historical gold prospects in the northern part of EL9003 have received very limited exploration programs. Although they are listed as 'occurrences' only in the Minview database, further reconnaissance programs (stream sediment sampling, geological mapping) are recommended.

The 'circular feature' identified near the PeelEx 1-001 anomaly contains anomalous copper values in the stream sediment samples draining the prominent hill, but no other exploration data. This prospect warrants follow-up geological mapping to determine the source of the magnetic anomaly and anomalous copper values.

Similarly, the PeelEx 1-004 anomaly in the north of EL9003 requires follow-up exploration. This prospect warrants follow-up geological mapping and rock chip sampling to determine the source of the magnetic anomaly and anomalous copper values.

Geos Mining notes that the topography is quite challenging in many parts of the tenement and this may have limited the practical ability to complete geophysics surveys or drilling. However, from a technical viewpoint, we agree with the long-held concepts related to mineralisation style and probable genesis.

10. Elsinore Project (EL9004)

10.1. Mining History

Previous work is summarised in Table 19. There has been little exploration completed within the immediate area of EL9004 with most carried out in neighbouring prospects at Suttons Gully and Abington. The most significant exploration has been carried out by Sovereign Gold / Sugec Resources on EL7768 at the Elsinore copper prospect.

Tenement	Company	Years	Comments
EL0053	VAM LIMITED	1966-1967	All work at Boorolong Mo prospect, outside of EL9004.
EL1095	CRA EXPLORATION PTY LIMITED	1978-1979	All work at Suttons Gully Sn W prospect, outside of EL9004.
EL1278	JINGELLIC MINERALS NL	1979-1981	Diamond exploration, stream sediment sampling for indicator elements only.
EL1863	STRATEGIC METALS CORP PTY LIMITED	1982-1985	Most work concentrated on Suttons Gully Sn W prospect. Some Mo Sn reconnaissance at Boorolong Prospect.
EL4822	RIO TINTO EXPLORATION PTY LIMITED	1995-1997	Diamond exploration, aeromagnetics.
EL5458	DIAMOND VENTURES EXPLORATION PTY LTD	1998-2000	Diamond exploration.
EL6509	AUZEX RESOURCES LIMITED	2006-2008	Exploration focussed on Parlour Mountain intrusive, mainly to the east of EL9004. Soil sampling and mapping targeting Au, Mo, Bi, W, Sn.
EL6560	MALACHITE RESOURCES NL	2006-2008	Exploration mainly to the west of EL9004. Some stream sediment sampling.
EL7701	URALLA GOLD PTY LTD	2011-2014	Exploration to the east of EL9004 at Suttons Gully.
EL7768	SOVEREIGN GOLD (SUGEC RESOURCES LIMITED)	2011-2016	Elsinore Cu – Geochem sampling, IP surveying. Other work outside of EL9004.

Table 19: Previous Exploration within EL9004

10.2. Mineralisation Style

The GSNSW Minview database reports only two mineral occurrences within EL9004, one of which has never been located (Table 20 and Figure 52).

Name	Comm-odity	Workings	Depth (m)	Comments
Elsinore 1 & 2	Cu	Pits	1.5	Massive banded pyrrhotite within meta-basalt
Laura Creek	Mo	Unknown		Not located. Reported as MoS_2 in quartz veins

Table 20: Mineral Occurrences within EL9004

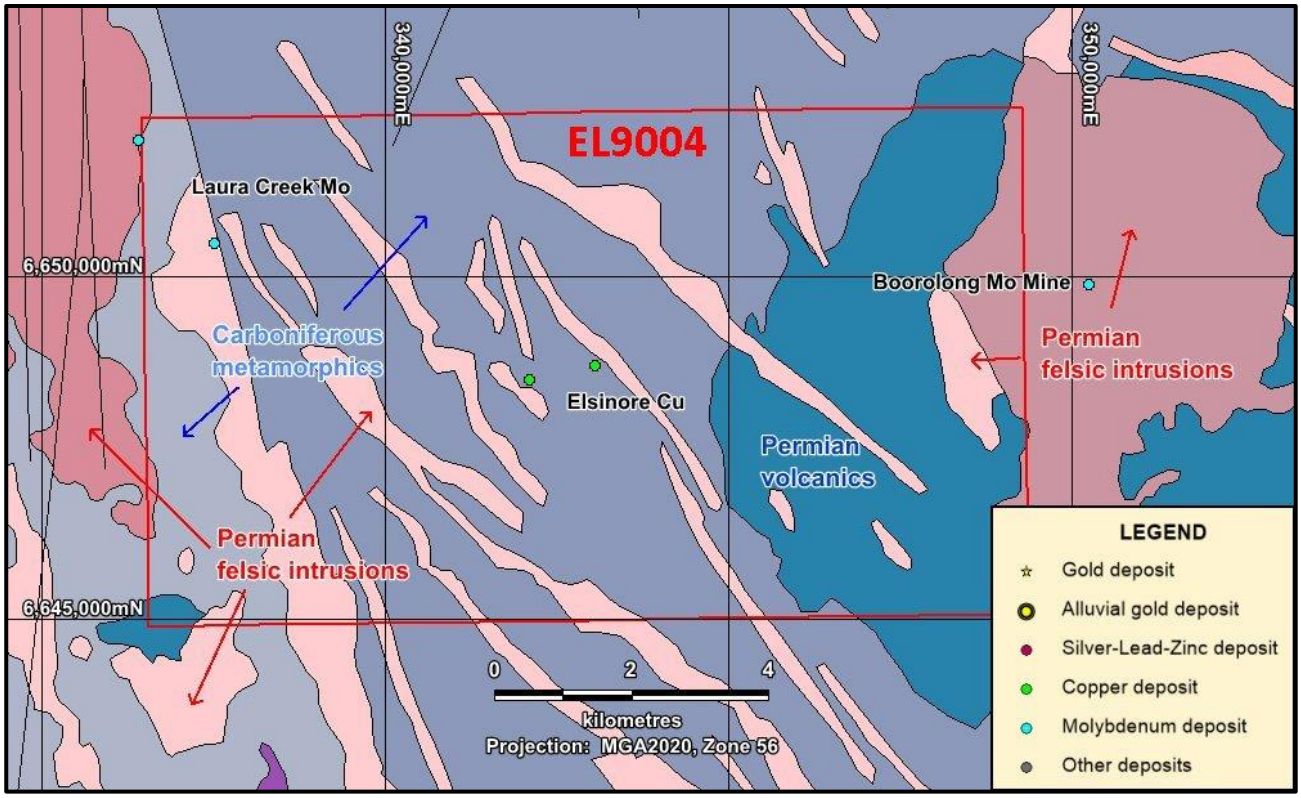

Figure 52: EL9004, Geology & Mineral Occurrences

The Elsinore Prospect comprises Sandon Beds greywacke and psammite with intruded felsic dykes that are crosscut by fracture zones with notable chloritization, sericitization, silicification, pyritization and kaolinization. In the eastern portion of the Elsinore occurrence, gossanous outcrop has been located but the mineralisation style was not reported (Leu, et al., 2016). However, the NSW Government mineral occurrence database refers to the occurrence as stratiform, lenticular massive type (Brown, et al., 1992).

The Laura Creek Prospect was reported on by Andrews in 1916 as containing numerous molybdenite flakes over an extensive area. CRA visited the area in addition to the NSW Government Geologist with no success in finding the "extensive molybdenite flakes". Field traverses by Malachite were also unsuccessful in locating the molybdenite occurrence (Derriman, 2008).

10.3. Exploration

Mapping and Local Geological Setting

The local geological setting is dominated by the Late Permian monzogranite, termed the Parlour Mountain Cauldron that is located on the extreme eastern end of EL9004 and has intruded Carboniferous Sandon Beds meta-sediments. Permian volcanics and felsic intrusive dykes comprise much of the tenement area (King, 1982).

GEOCHEMISTRY

Sugec Resources completed an extensive soil sampling program (Robertson, 2013) covering the Elsinore Prospect and outlined several spotty Au, As, Cu, Pb and Zn anomalies. Unfortunately, while the gridded images of the soil sample results were reported, no actual assays were included in the data sets accompanying the report. The interpreted distribution of anomalies (Figure 53) suggests a weak E-W trend in the central portion of the gridded area, with NW-SE extensions that broadly mimic the orientation and location of the Permian felsic dykes.

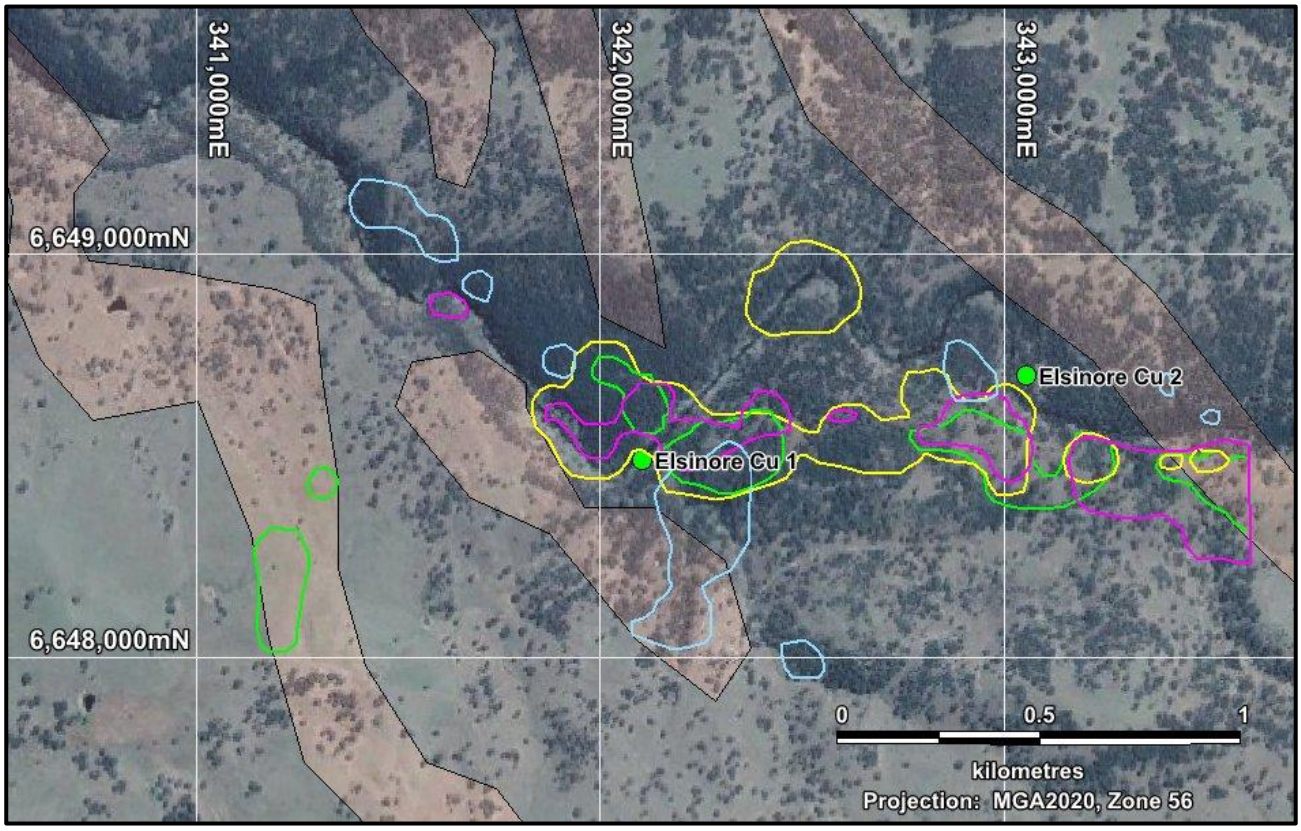

Figure 53: Elsinore Prospect Soil Sampling Anomalies

Outlines of anomalous areas taken from Robertson, 2013.
Yellow = Au; Green = Cu; Blue = Pb; Purple = Zn

GEOPHYSICS

Sugec Resources followed up the soil survey with a detailed IP survey, using 20m station intervals along 100m spaced gridlines (probably gradient array, but this was not stated). Although anomaly maps were presented in their annual reports, the grid coordinates on the maps are illegible and the raw data was not provided. One map shows anomalous IP chargeability zones to the northwest of Elsinore Copper No.1 prospect. However, without more information on the survey procedures we cannot comment on the significance of these zones.

10.4. DRILLING

Sugec Resources planned to complete diamond drilling at the Elsinore Prospect but it was never completed due to lack of water during drought conditions (Robertson, 2014).

10.5. OPPORTUNITIES & RECOMMENDATIONS

There has been very little exploration completed within EL9004, but the Elsinore Prospect remains untested despite coincident anomalous geochemical and geophysical responses. In Geos Mining's opinion, this remains as the best target for drilling, although we recommend that, prior to drilling, check sampling and geological mapping is carried out to verify the mineralisation extent and orientation.

We recommend that details of the Sovereign Gold IP survey be obtained and reviewed, if available. According to Robertson, 2014, the 2013 EL7768 Geophysical Report was submitted to the Senior Geophysicist of the NSW Geological Survey. However, a search of the DIGS database did not locate the report. Additional IP surveying may be necessary prior to any drilling to determine the extent of the chargeable response.

In the western part of EL9004, the Laura Creek molybdenum occurrences are associated with felsic porphyry dykes and monzogranites. Very little information is available for these occurrences.

11. Tea Tree Project (EL9084)

11.1. Mining History

The NSW mineral occurrence database records a total of 18 historical quartz reef gold workings and three alluvial gold occurrences within the area covered by EL9084 (Table 21 and Figure 54). All of the workings are described as 'small' or 'occurrences only', and only a few have recorded production figures. Brown, et al., 1992, reported production from the Pioneer Reef totalled 63kg of gold from 1,682kg of ore (average >35g/t Au).

Name	Workings	Depth (m)	Comments
Black Mtn Reef	UG, shafts, shallow pits	30	Numerous quartz veins in phyllite and lithic wacke. Veins up to 20 cm wide. Carbonate and quartz in approximately equal proportions.
Black Prince Reef	UG, shafts, shallow pits	7	Some post ore shearing along joints. workings on vein trending 332 deg, subvertical. Assays of quartz veins returned 13.3-66.5ppm Au, 2-17ppm Ag (NSW Government Spatial Services, 2020).
Dyson's Reef	UG, Open cut, shafts, shallow pits	40	Line of collapsed workings follow strike of quartz-carbonate vein. Separate episodes of quartz & calcite emplacement. Minor pyrite found in quartz. Quartz locally vughy. Vein probably up to 10-20cm wide. No outcrop in workings.
Italian Gully	Shallow pits	3	Pits along spur for 50m. Dumps comprise sediments, minor vein quartz (rarely pyritic), and rare calcite. Veins up to 8 cm thick.
Opossum Gully	Shallow pits	2	Numerous shallow pits developed on quartz-carbonate vein(s). No outcrop in pits. Some quartz is vughy and locally contains iron oxides as vugh and joint fills. Gully at foot of hill has probable old alluvial workings extending 200m downstream.
Pioneer Reef	UG, shafts, shallow pits	47	Major, infilled shafts and numerous pits along carbonate-quartz vein. This is the largest working on this vein. Abundant quartz and calcite vein material up to 20cm thick in lithic wacke.
Readings Reef	UG, shafts, shallow pits	43	Shear zone up to 4 m wide with vein or bifurcating quartz and calcite veins. Possible arsenopyrite recorded historically. Elongate over 235m in shear zone. Reef width up to 1m.
Readings Reef South	Adits, shallow pits	1	Scattered pits along flanks and bottom of gully. Probable narrow quartz-carbonate veins shedding minor gold.
Shamrock Reef	UG, shafts, shallow pits	3	Numerous infilled pits and probably one shaft on quartz-carbonate veins. Pyrite is visible rarely in country rock adhering to quartz. Lumps of vein material to 30cm thick.
Unnamed	Shallow pits	2	Shallow trench along arcuate vein. No carbonate, abundant, sparsely vughy, rarely pyritic quartz.

Name	Workings	Depth (m)	Comments
Unnamed	UG, shafts, adits		Two separate sets of workings found (50m to WNW and ESE of given location).
Unnamed	UG, shafts, shallow pits	10	Two lines of pits with shafts at intersection. Abundant quartz, some with trains and small bungs of fine pyrite. Pyrite also as disseminations & joint fills in host rock. Minor quartz lined vughs in quartz.
Unnamed	Shallow pits	1.5	Numerous shallow pits on narrow (<2cm) quartz veins.
Unnamed	Shallow pits		Ploughed paddock. Float of calcite and subordinate laminated, vughy quartz in pieces up to 10cm thick. Minor pyrite and Fe oxides with quartz and calcite. Orientation of vein(s) not discernible.
Unnamed	UG, shafts, shallow pits	7	Workings developed on carbonate veined green, aphanitic rock with Feldspar fragments. Minor pyrite aggregates in host rock.
Unnamed	Open cut, shallow pits	2	Orientation of trenches and pits along gully at angle to regional strike suggest fault control of veins. No outcrop visible. An ore dump is located S of workings on ridge. Ferruginous metasediment returned 3400ppm As and 0.96ppm Au; vein quartz returned 652ppm As and 0.6ppm Au (NSW Government Spatial Services, 2020).
Teatree Creek Deep Lead	UG, open cut, dredging and/or sluicing, shafts, shallow pits		Small workings, may only be exploratory. Occurrences developed about margins of hill capped by basalt.
Teatree Creek Gold	Shallow pits	3	Very extensive, heavily worked alluvial occurrences, comprising infilled pits and possible shafts. Workings along alluvial flats & some slopes and tributaries.
Red Hill	Open cut		Workings, into clay rich Tertiary sediments, ring a basalt capped hill. It is unclear if a deep lead under the basalt or if alluvials derived from these leads, were worked.

Table 21: Mineral Occurrences within EL9084

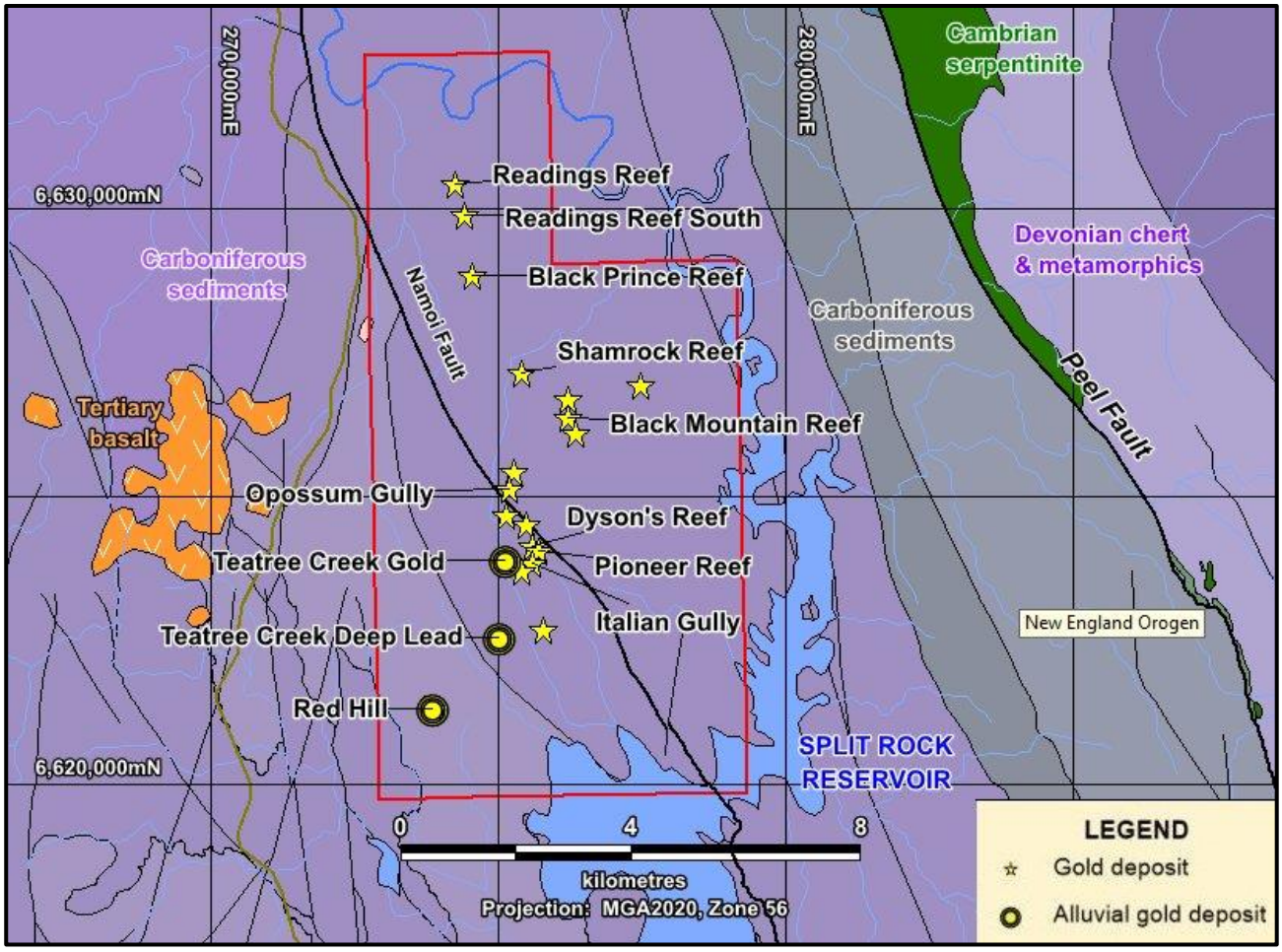

Figure 54: EL9084, Geology and Mineral Occurrences

11.2. Historical Exploration

There have been 19 Exploration Licences that have covered parts of EL9084, but work completed within the area of the Lode tenement has been quite limited (Table 22). The most significant work programs were undertaken by Pinnacle Gold (EL7859).

11.3. Geological Setting

The Teatree Creek Goldfield is located within Noumea Beds meta-sediments locally folded into open and upright structures that are cut by regional north-west trending thrusts and less common north-east or east-west cross faults (Figure 54) (Robertson, 2015b). The Namoi Fault passes along the western edge of the Teatree Creek Goldfield, striking parallel to the Peel Fault, dipping steeply to the west.

Tenement	Company	Years	Comments
EL0045	AUSTMINEX NL	1966-1967	Includes only eastern third of EL9084 adjacent to Split Rock Reservoir.
EL0046	AUSTMINEX NL	1966-1967	Includes only eastern third of EL9084 adjacent to Split Rock Reservoir.
EL0189	SERPENTINE MINERALS NL	1969-1971	Includes only eastern 20% of EL9084 adjacent to Split Rock Reservoir.
EL1920	ABIGNANO LIMITED	1982-1985	Mapping, sampling at Readings and Black Mountain Reefs.
EL2136	G ABIGNANO CONS PTY LTD	1983-1990	Prospecting south of Pioneer Reef.
EL3142	DEMITE PTY LIMITED	1988-1990	All work completed at Crow Mountain near the Peel Fault and outside of EL9084.
EL3990	GB BRINK, D SMITH, AJ WHITE	1991-1995	Small EL covering Black Mountain. See comments below for EL3991.
EL3991	GB BRINK	1991-1995	Discussion of Black Mountain and Pioneer Reef. Trenching and mapping at Tea Tree for alluvial wash; no results listed.
EL3992	GB BRINK, D SMITH, AJ WHITE	1991-1993	On margin of EL9084 only.
EL4636	MOGUL MINING NL	1994-1996	No work done.
EL4901	UNIVERSAL SERVICES GROUP PTY LTD	1995-1997	No work reported.
EL5551	RIMFIRE PACIFIC MINING N.L.	1999-2004	Tea Tree - MMI orientation soil sampling. Main area is to the east of EL9084.
EL6471	DINGO RESOURCES PTY LIMITED	2005-2007	No reports
EL7148	IRONBARK ZINC LIMITED	2008-2011	Work focussed on Mn occurrence outside EL9084.
EL7725	PEEL GOLD PTY LTD	2011-2015	Abuts northern edge of EL9084 only.
EL7859	PINNACLE GOLD PTY LTD	2011-2013	Geochemical sampling, 2 RC drillholes at Shamrock Prospect; best result 2m @ 6.32g/t Au from 35m (Grayson, 2013).
EL7867	PINNACLE GOLD PTY LTD	2011-2013	Abuts northern edge of EL9084 only.
EL8227	PEEL GOLD PTY LTD	2014-2015	Reconnaissance only.
EL8277	PEEL GOLD PTY LTD	2014-2015	Examination of historical workings.

Table 22: Previous Exploration Licences within area of EL9084

To the west of the Peel Fault, Middle Devonian to Carboniferous marine shelf sediments intercalated with volcaniclastics shed from a western volcanic source and limestone reefs. The Early Carboniferous Namoi Formation (Parry Group) occurs adjacent to the Peel Fault. The Namoi Formation is comprised of isoclinally folded, steeply dipping, cleaved and rhythmically graded mudstone and siltstone with local sandstone and conglomerate. Devonian aged formations assigned to the Parry and Tamworth Groups occur to the west of the Namoi Formation.

There are two north-west trending, parallel lines of occurrences 1.5km apart, together with scattered individual vein, alluvial, and deep lead occurrences. Gold is associated with pyrite in friable subvertical narrow quartz reefs in shear zones associated with brecciation (Robertson, 2015c).

11.4. Mineralisation Style

The style and form of individual workings was described in Robertson, 2015c, and some relevant comments are included below:

- Readings Reef - a narrow vertical tabular 'vein' / 'lode' / 'reef'
- Readings Reef South - a very small alluvial gold occurrence with very minor production indicating that bedrock gold source (the shear zone that also hosts Readings Reef) has strike extent of at least 0.5km
- Black Prince Reef - a very narrow vertical tabular 'vein'
- Shamrock Reef - a 4m wide zone with thin quartz- carbonate veins with gold contents that were enhanced due to surficial enrichment, easy-to-dig nature and historic low cost labour in oxidised zone
- Black Mountain Reef, Opossum Gully, Dysons Reef, Pioneer Reef, Italian Gully, Teatree Gully - gold production was economic historically at shallow depth due to surficial enrichment and easy-to-dig nature of weathered oxidised mineralisation
- Teatree Creek – Red Hill - three deep lead type gold occurrences located on SW, S and SE margin of a Tertiary basaltic volcanic cap. Deep lead mining was economic historically due to low cost labour.

Specific Gold, 1995, noted that one shaft at Black Mountain was "probably amenable to cleaning out and rehabilitating allowing access to at least some of the stopes, drives and winzes for mapping and sampling purposes". It was also commented that one of the deep shafts in the southern alluvial area "consisted of sandy clay with bands of grit and gravel. The bottom of the shaft appeared to have been reamed out into a wide circle, up to 1.5m high and with drives radiating out".

Rimfire Pacific Mining NL, 2000, noted that the Tea Tree workings are hosted by the Noumea Beds (now referred to as the Baldwin Formation) and are oriented along the northwest-trending Namoi Fault (Rimfire Pacific Mining NL, 2000).

Brown, et al., 1992, noted the absence of obvious local granitic source rocks for the quartz-carbonate vein-hosted gold mineralisation. They classified the occurrences as mesothermal and speculated that a significant proportion of the vein material was derived from the calcareous strata of the Tamworth Belt. Similarities with auriferous vein occurrences developed along the Peel Fault System, and localisation of occurrences along the regional-scale Namoi Fault, adds weight to the mesothermal style of mineralisation, with major structures providing channel ways for auriferous hydrothermal fluids.

11.5. Geochemistry

In the GSNSW geochemistry database, only 12 stream sediment samples have been recorded from within the area of EL9084. None of these returned significant assay results.

Abignano (EL1920) and Brink (EL1991) conducted surface geochemical sampling over parts of the Tea Tree Gold Field but failed to define significant anomalies.

Pinnacle Gold (EL7859) collected 93 rock chip samples from within the area of EL9084. Assay results ranged up to 152ppm Au, 22.5ppm Ag and >1% As. Most of the samples were collected from historical workings,

so they are likely to have been selective samples of visible mineralisation and not representative of the entire occurrences.

11.6. GEOPHYSICS

The GSNSW Peel South Exploration program covered the EL9084 area with regional scale airborne magnetics and radiometrics (Brown, 2003). The image of the TMI-RTP data (Figure 55) shows the close association of gold occurrences to extensive magnetic linears.

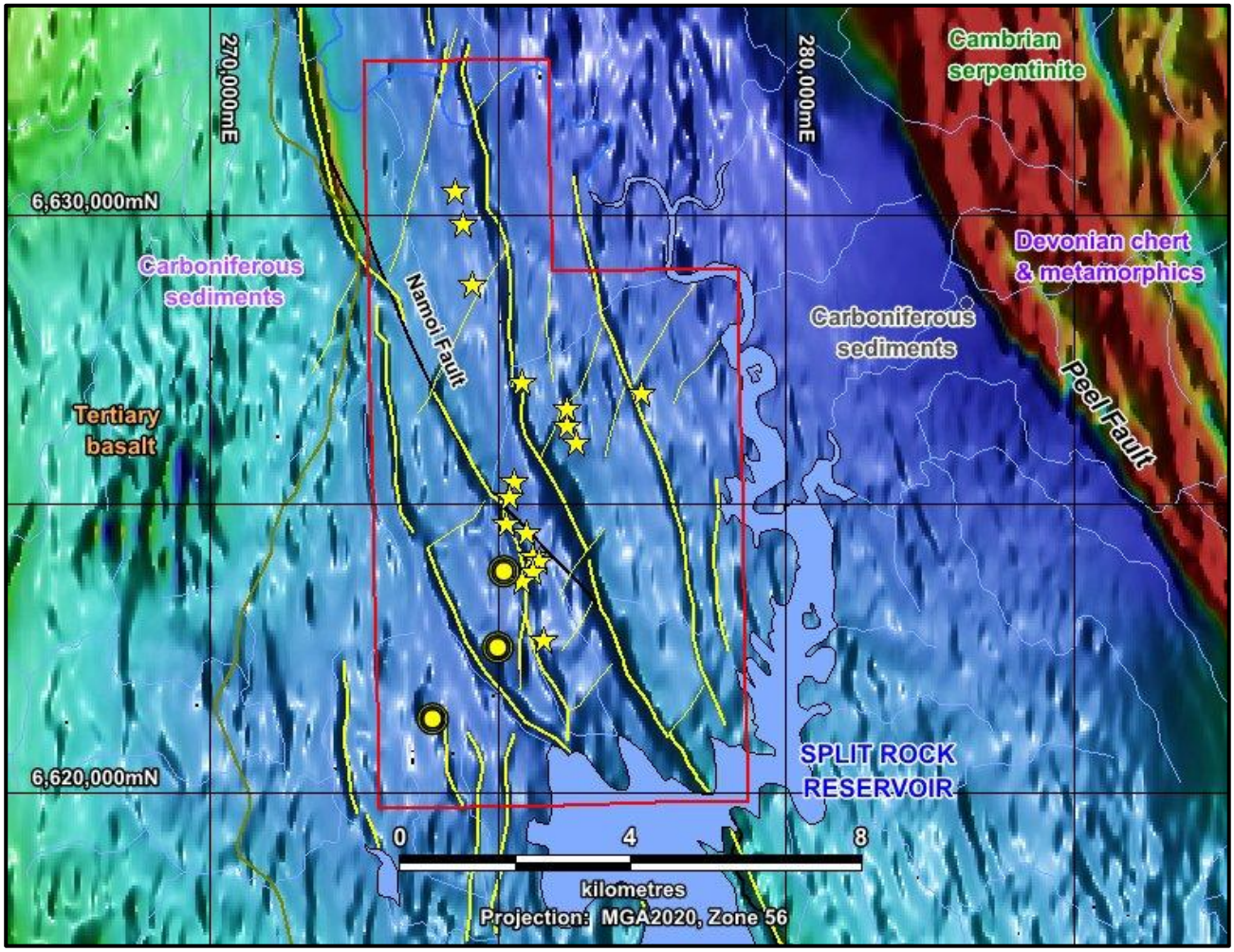

Figure 55: EL9084, Peel South program TMI-RTP, magnetic linears

11.7. DRILLING

According to the GSNSW Minview database, Specific Gold (G. Brink, EL3991) drilled two RAB drillholes and four diamond drillholes at the Tea Tree Creek Gold occurrences. However, the collar locations for all six drillholes are the same and details of the drilling were not recorded in the EL3991 Annual Reports.

Pinnacle Gold drilled two Reverse Circulation drillholes (totalling 123m) to test down dip of the Shamrock Reef workings (Table 23). The best result was reported from hole SHM01: 2m @ 6.32 g/t Au and 5,670ppm As from 35m in a quartz-calcite vein (Figure 56) (Grayson, 2013). The scissor drillhole, SHM02 did not intersect the vein and all other sample intervals assayed <0.1 g/t Au.

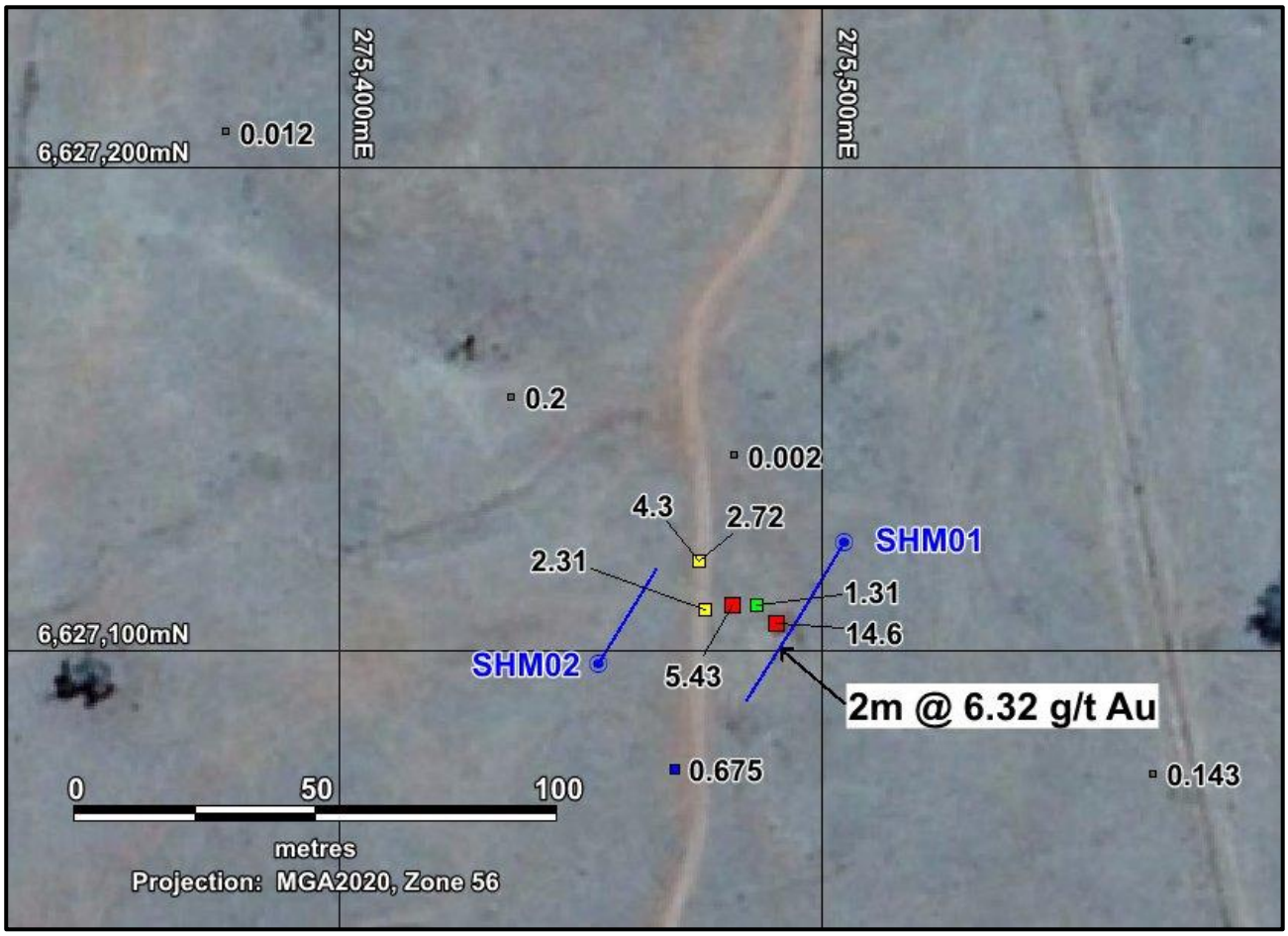

Figure 56: Shamrock Prospect RC drilling & rock chip gold assays

Hole_ID	East (MGA20, Z56)	North (MGA20, Z56)	RL	Dip	Azim	Length
SHM01	275504	6627121	531	241	-60	46
SHM02	275453	6627096	545	61	-60	77

Table 23: Shamrock Prospect, historical drillholes

11.8. Opportunities & Recommendations

The Tea Tree Project comprises several small mesothermal gold occurrences that are structurally controlled and related to the Namoi Fault and a N-trending magnetic linear to the east of the Namoi Fault. Historical gold production has been limited but the very high gold grades would have been attractive to historical miners. The lack of virtually any drilling presents an opportunity for Lode to test below the extent of the

historical mining, which probably targeted supergene enrichment at the base of complete oxidation (BOCO). The potential for auriferous mineralisation hosted by quartz-sulphide veins below the BOCO is quite good along the interpreted structural corridor.

12. Thor Project (EL9085)

12.1. Mining History

The NSW mineral occurrence database records a total of six historical workings within the area covered by EL9085 (Table 24 and Figure 57).

Name	Comm-odity	Workings	Comments
Unnamed	Au	Alluvial	Small alluvial workings in creek.
Unnamed	Au	UG	Shaft at the edge of alluvium.
Unnamed	Au	Alluvial	Alluvial gold intermittently recovered by locals.
Old Willaroi Creek Alluvials	Au	Shallow pits	Historical records and presence of old cradle and gold pan on creek bank suggest gold was won from main creek and tributary. Gold possibly derived from conglomerates. Production 1891-1931. Diamonds also recovered in the Maules Creek area.
Unnamed	Au	Pits	Small pit on quartz vein.
Unnamed	Mag	UG	Magnetite body with shaft.

Table 24: Mineral Occurrences within EL9085

12.2. Exploration History

There have been eight Exploration Licences that have covered parts of EL9085, but work completed within the Lode tenement is quite limited (Table 25). Exploration completed by Pinnacle Gold (EL7868) is the only significant exploration completed.

Tenement	Company	Years	COMMENTS
EL0343	HARRINGTON, H J	1970-1971	Covers southern 20% only. Extensive geological mapping discussion.
EL0457	AUDIMCO LIMITED	1971-1972	Diamond exploration.
EL2829	CRA EXPLORATION PTY LTD	1987-1988	Almost entirely outside of EL9085.
EL4179	ALPHADALE PTY LIMITED	1992-1994	Almost entirely outside of EL9085.
EL4786	ALPHADALE PTY LIMITED / WERRIE GOLD	1995-1997	Most work outside of EL9085. Two magnetite occurrences noted.
EL6457	SUNMUSTARD PTY LTD	2005-2007	Almost entirely outside of EL9085.
EL7860	PINNACLE GOLD PTY LTD	2011-2012	Almost entirely outside of EL9085.
EL7868	PINNACLE GOLD PTY LTD	2011-2013	Prospecting, limited stream sediment sampling.

Table 25: Previous Exploration within EL9085

12.3. GEOLOGICAL SETTING

EL9085 occurs within Carboniferous sediments and pyroclastics of the Tamworth Belt (Figure 57).

The most obvious structural feature within EL9085 is the Rocky Creek Syncline and a smaller anticline located on the western edge of the syncline (Figure 57, Figure 58). Along the faulted axis of the syncline are fluvioglacial to glacial sediments, piedmont conglomerates and ash flow tuffs of the Carboniferous Rocky Creek Conglomerate. These overlie coarser fluvial sandstones and conglomerates with airfall tuffs of the Clifden Formation that occupies much of the syncline. In places the fluvial system lies directly on the underlying shelf mudstones of the Namoi Formation and volcaniclastic turbidites of the Luton Formation. The western edge of the Rocky Creek Syncline is upfaulted, and a small faulted anticline occurs between the upfaulted block and syncline proper. The core of the anticline consists of recessive fluvial Caroda Formation surrounded by a rim of more resistant glacial piedmont of the Spion Kop Conglomerate.

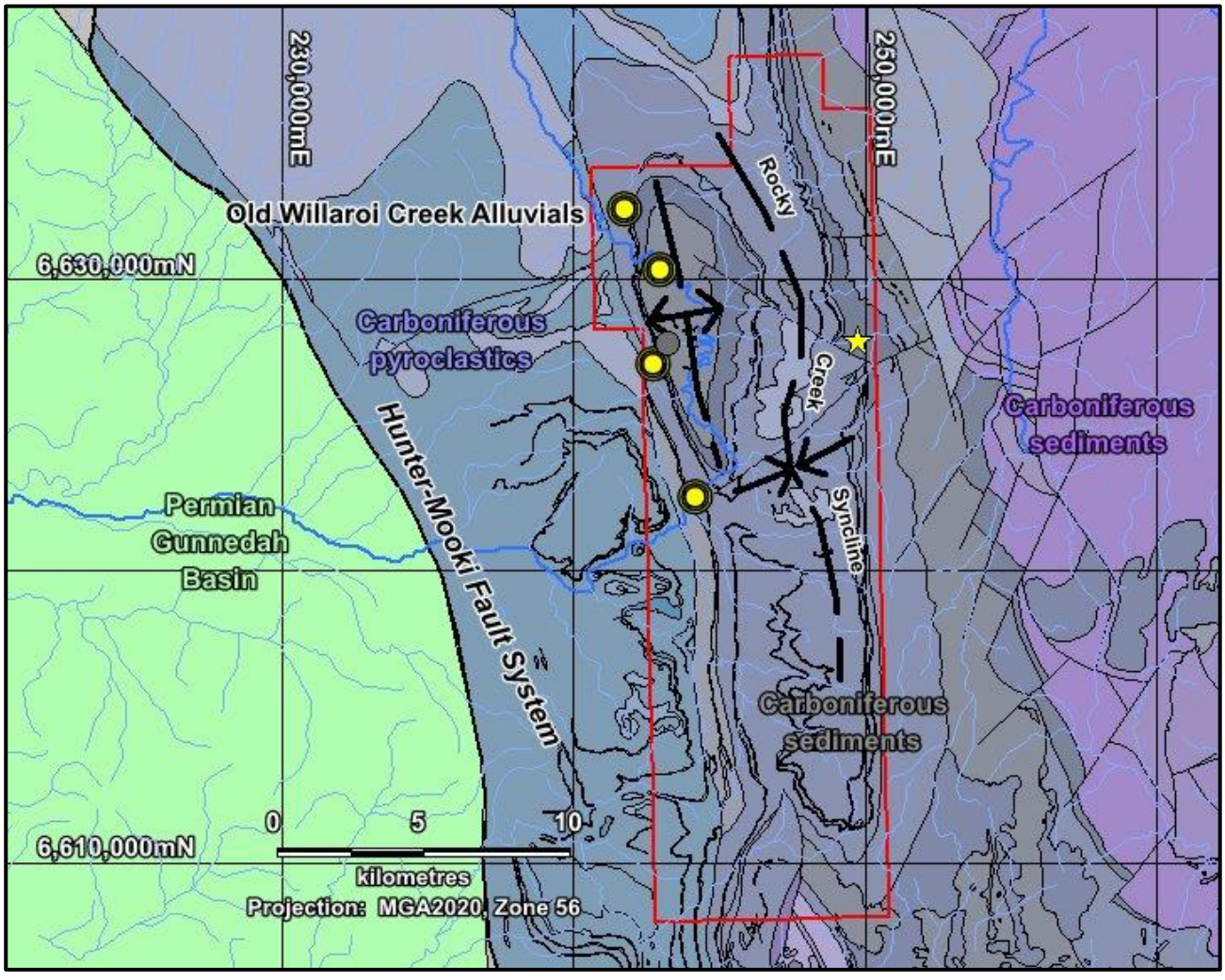

Figure 57: EL9085, Geology and Mineral Occurrences

12.4. Mineralisation Style

Mineralisation in the area of EL9085 is dominated by alluvial gold occurrences near the western boundary and a single hard rock gold occurrence near the eastern boundary, which the GSNSW Minview mineral occurrence database describes as a structurally controlled low sulphide hydrothermal quartz vein gold occurrence.

Grayson, 2013a, reported that the GSNSW database "shows four areas of alluvial workings within the anticline. The easternmost of these is situated within a short valley draining the upper and lower contacts of the Spion Kop Conglomerate, and the Peri Rhyodacite, which forms a sharp ridge. The three western areas all drain the Spion Kop Conglomerate. Given the strong possibility that the Peri Rhyodacite has been unrecognized on the western side of the anticline, either this unit or the conglomerate are the most likely sources for the gold.

Within the syncline the Oakey Creek alluvials occur downstream from a small auriferous quartz vein but also drain the Spion Kop Conglomerate. The alluvials were deposited at a change in slope, where the drainage leaves low hills of coarse fluvial rocks (Caroda Formation) and enters onto a plain of marine mudrock (Namoi Formation).

An alluvial working in Maules Creek is 1.5-2km downstream from outcropping Spion Kop Conglomerate, and also rhyodacite, but could be sourced from nearby hillsides of Clifden Formation."

Two magnetite occurrences were noted by Werrie Gold. Both are located at or very close to already identified workings (see Table 24) but sampling did not result in any anomalous gold values (Plumridge, 1998).

12.5. Geochemistry

Pinnacle Gold reported anomalous gold-in-stream sediment BLEG samples from previous exploration by Werrie Gold (EL4786) (data not found in the GSNSW database) and these have been plotted in Figure 58. Some anomalous results coincide with the anticlinal axis of the western anticline (see Section 12.3) but Pinnacle Gold did not reproduce these results from follow up sampling.

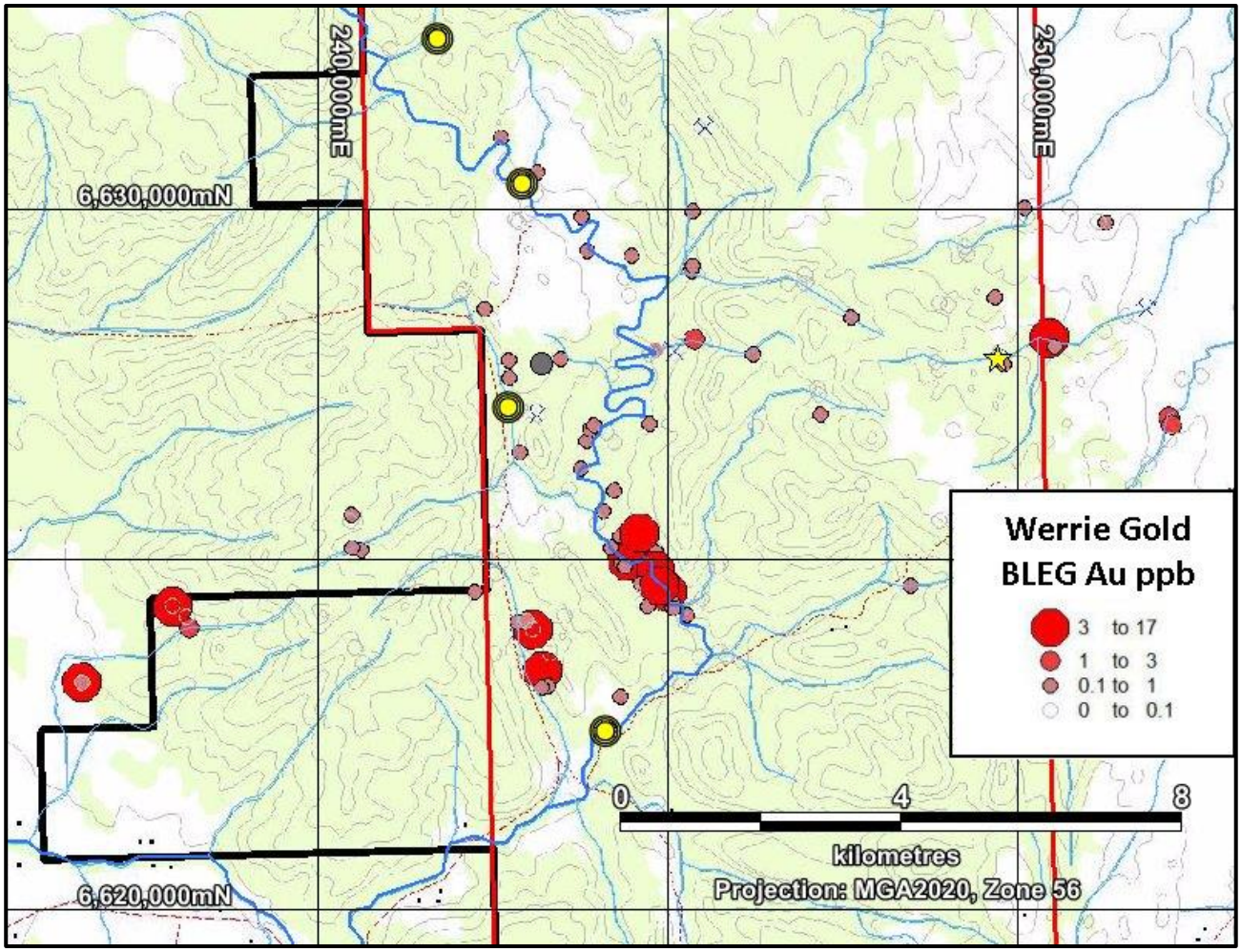

Figure 58: Historical Stream Sediment BLEG sampling, Au ppb

EL9085 = red outline; EL4786 = black outline

12.6. GEOPHYSICS

Regional airborne magnetics flown by GSNSW shows the differentiation of the various regional geological units and several possible cross-cutting structures (Figure 59). The significance of these cross-cutting structures has not been determined.

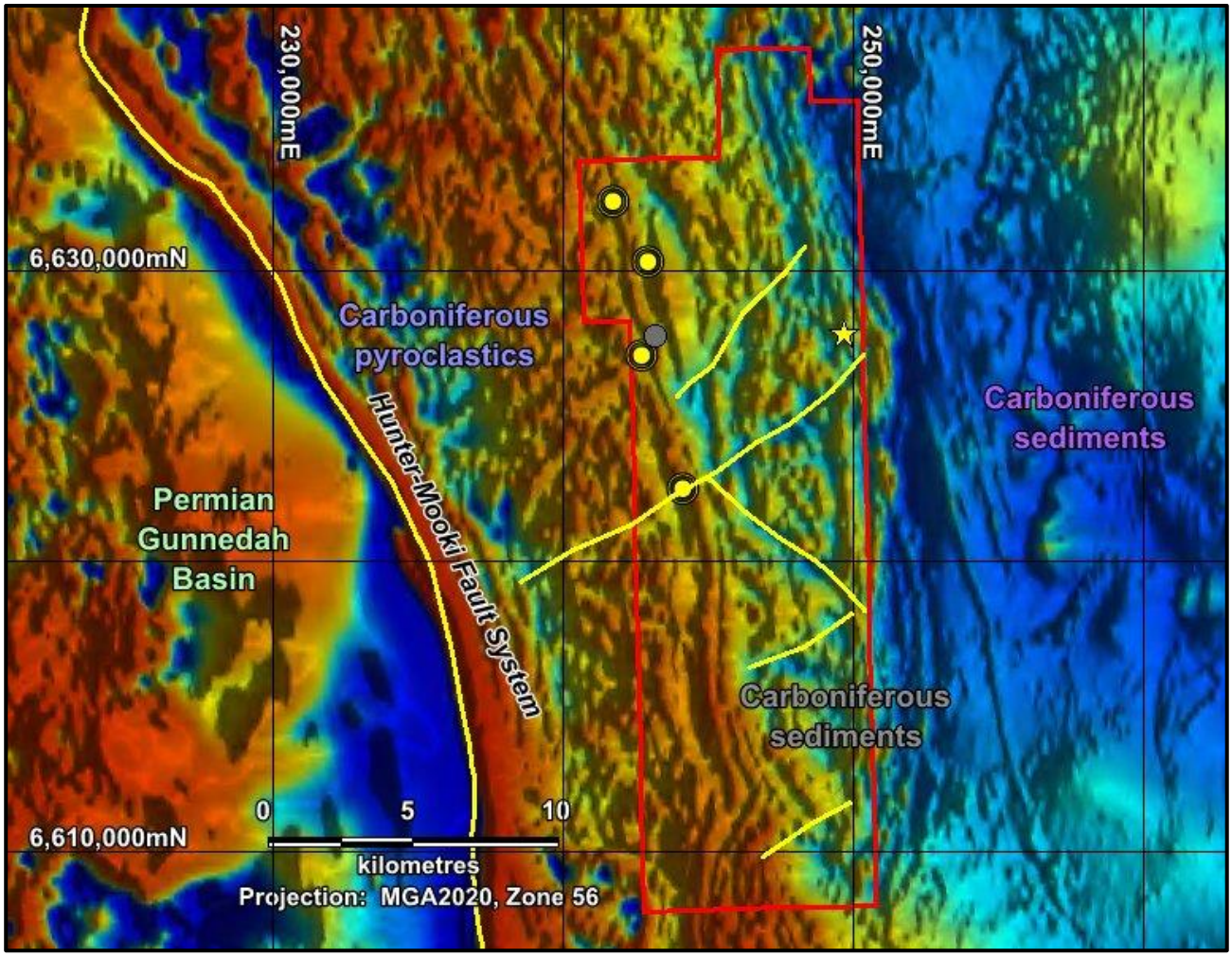

Figure 59: EL9085, Regional TMI-RTP and interpreted structures

12.7. Drilling

There has been no drilling reported from within the area of EL9085.

12.8. Opportunities

The Thor Project covers a structurally disturbed sequence of Carboniferous sediments and pyroclastics/ epiclastics between the Peel and Hunter-Mooki Fault Systems. There are a few scattered indications of gold mineralisation from historical workings, but there has been virtually no exploration completed, apart from known mineralisation prospecting.

Review and re-interpretation of the regional airborne magnetics data may define zones of possible structural disruption that could provide channel ways for mineralising fluids.

The opportunity for Lode Resources lies in this unexplored nature of the tenement and it is recommended that initially a 'boots-on-ground' approach is taken to carefully prospect the areas outside of known

mineral occurrences. Selective geochemical sampling is also recommended once the prospective stratigraphy is identified in areas of structural complexity.

13. Uralla West Project (EL9087)

13.1. Mining History

The GSNSW mineral occurrence database records no historical workings within the area covered by EL9087.

13.2. Exploration History

There have been five Exploration Licences that have covered parts of EL9087 (Table 26). Exploration completed by Sugec Resources / Sovereign Gold is the only significant exploration completed.

Tenement	Company	Years	COMMENTS
EL0204	CRA EXPLORATION	1969 - 1970	Targeted tungsten and molybdenum mineralisation with regional geochemistry.
EL0327	GULLIVER, E	1970 - 1972	No exploration within area of EL9087.
EL0570	MINERAL DEPOSITS LTD	1980 - 1982	No exploration within area of EL9087.
EL1496	BROKEN HILL METALS NL	1980 - 1982	Tested alluvial gold potential.
EL7491	SUGEC RESOURCES / SOVEREIGN GOLD	2010 - 2020	Exploration targeting Reduced Intrusion-Related Gold Systems.

Table 26: Previous Exploration within EL9087

13.3. Geological Setting

The area covered by EL9087 lies within the Woolomin-Texas Block of the New England Orogen. Late Devonian-Early Carboniferous Sandon Beds (deep water metasediments) have been intruded by several late Permian to Early Triassic I-type to S-type felsic plutons and dykes (Figure 60).

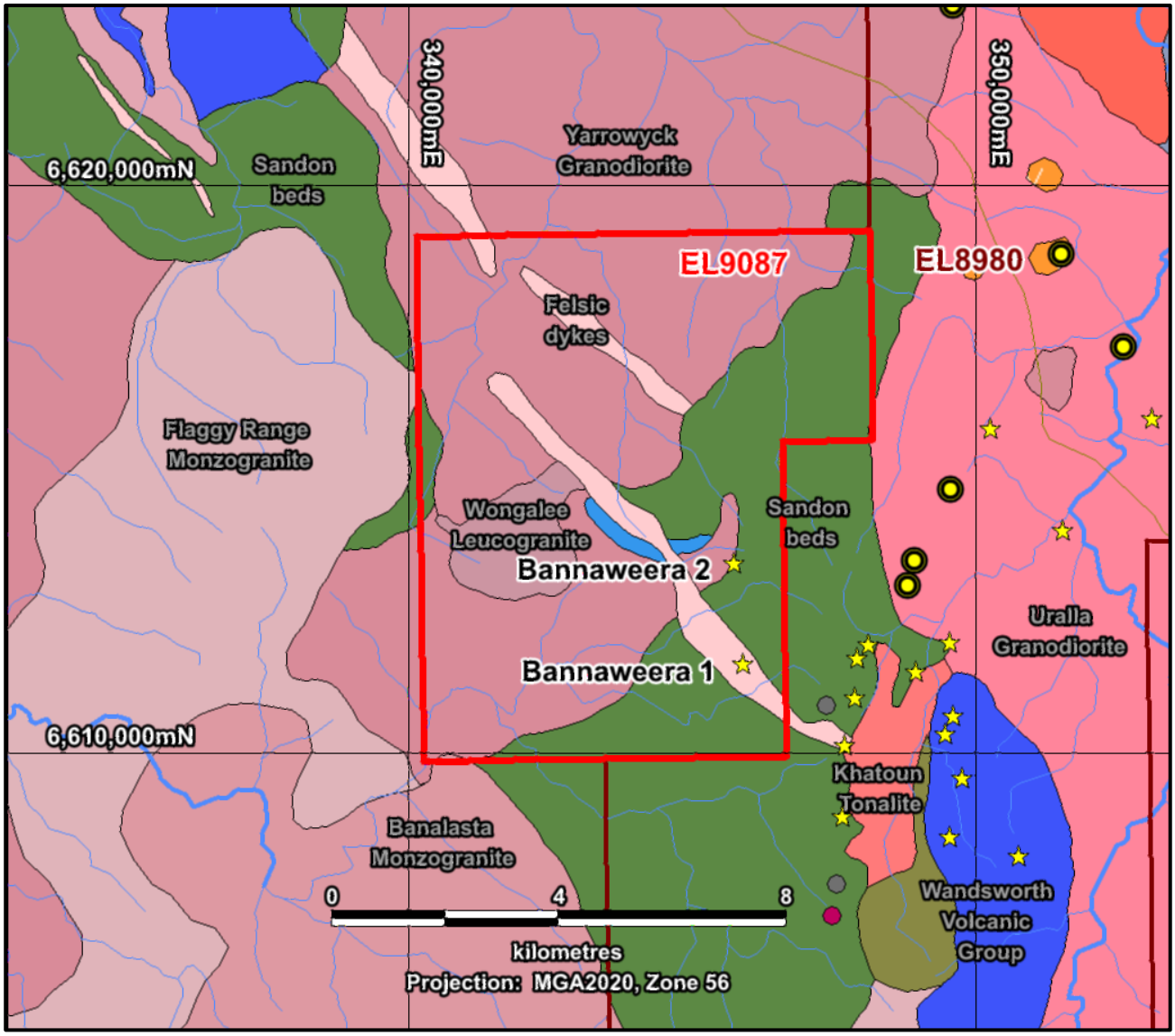

Figure 60: EL9087, Geology and Mineral Occurrences

13.4. Mineralisation Style

Exploration programs undertaken by the Sugec Resources / Sovereign Gold joint venture identified two prospect areas, termed the Bannaweera 1 and Bannaweera 2 structures (Figure 60). These prospects were identified from interpretation of airborne magnetics-radiometrics data and further defined by geological mapping and geochemical sampling.

Geological mapping, rock chip sampling and diamond drilling determined that the NE-trending structures resulted in phyllic alteration and brecciation of the host rock (Sandon Bed metasediments and felsic dykes). Gold mineralisation was associated with sheeted veins within the same felsic dyke that hosts the Martin's Shaft prospect in EL8980. Brittle fracturing of this dyke allowed mineralising fluids to permeate through the rock, depositing disseminated gold.

13.5. GEOCHEMISTRY

Sovereign Gold collected 36 rock chip samples from outcrops along the NE-trending structure. Assay values ranged from <0.01 to 2.32 ppm Au, 0.1 to >100 ppm Ag, 9 to 22,500 ppm As and 1.5 to 5,410 ppm Sb. Sodium depletion frequently correlated with alteration associated with anomalous gold (Leu & Robertson, 2013b). The sampling method was not reported, but it was probably selective grab samples of mineralised or gossanous material and therefore these values do not necessarily reflect the average grade of the mineralisation.

Sugec Resources followed up with a 40m x 100m grid soil sampling program (2,300 samples). Assay results defined a broad gold anomaly (>1.5 ppb Au) on the NE side of the felsic dyke that hosts the Martin's Shaft prospect, as well as two small clusters further north (Figure 61). The structure that hosts the Bannaweera 1 prospect also shows up as a distinct NE-trending anomaly in both gold and arsenic soil assays.

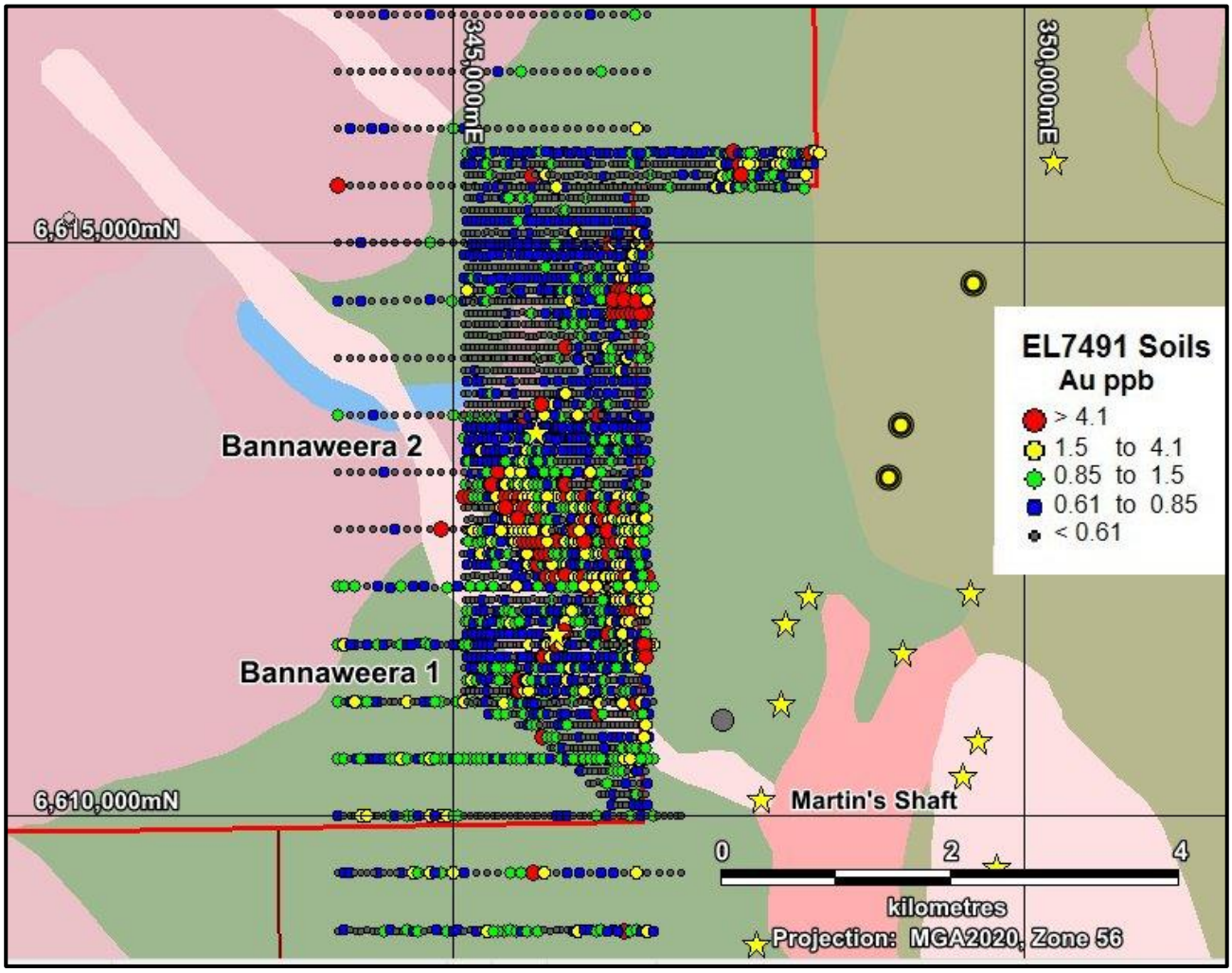

Figure 61: EL9087, soil results from EL7491, Au (ppb)

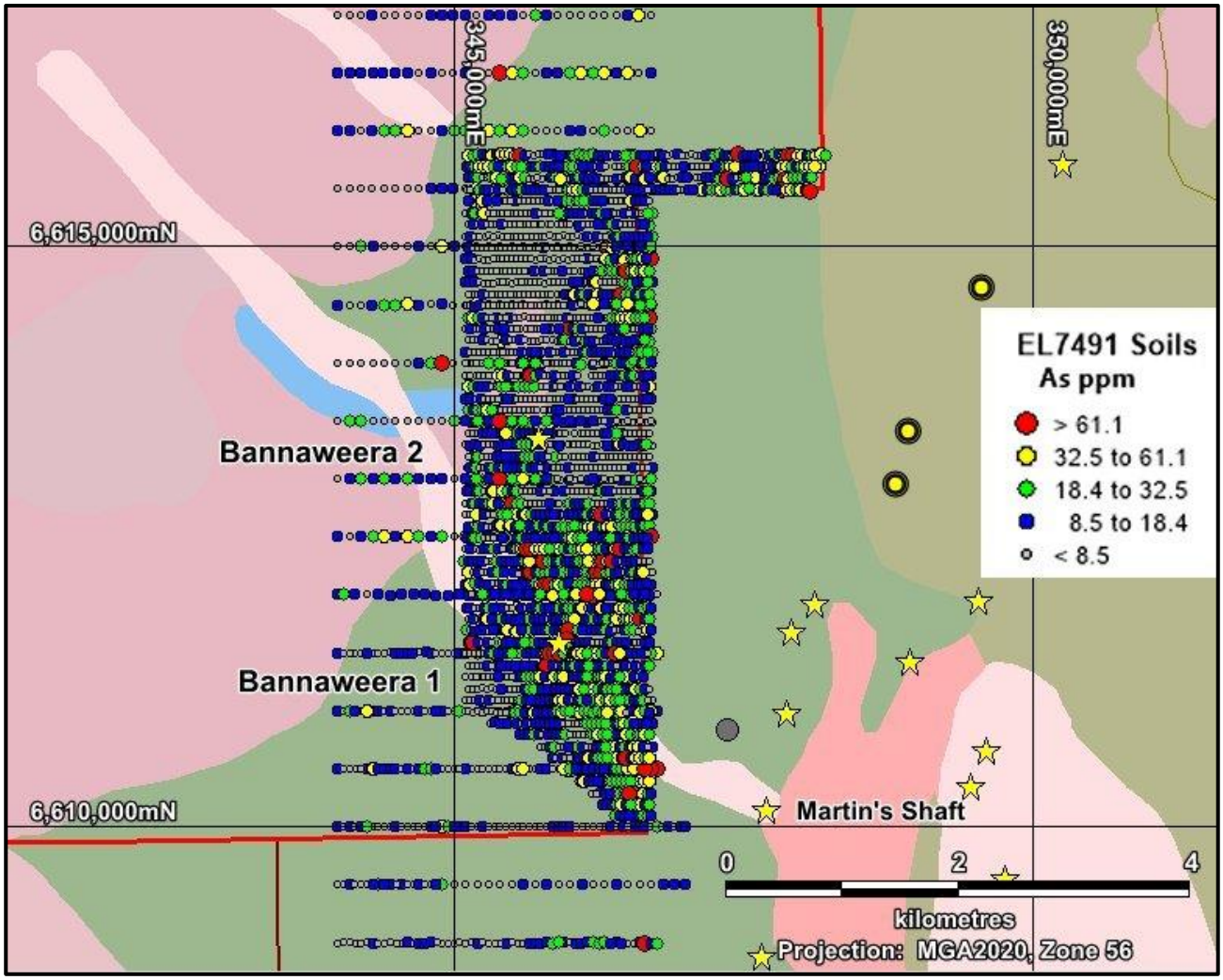

Figure 62: EL9087, soil results from EL7491, As (ppm)

13.6. GEOPHYSICS

The Sovereign Gold 2011 aeromagnetic survey covered the eastern half of the EL9087 area (Figure 30). A magnetic high was defined along the southern contact of the NW-trending felsic dyke that hosts the Martin's Shaft prospect in EL8980.

Sugec Resources followed up with a ground magnetics survey in 2013 (Leu & Robertson, 2013b) (Figure 63). This survey confirmed the anomalies from the airborne magnetics.

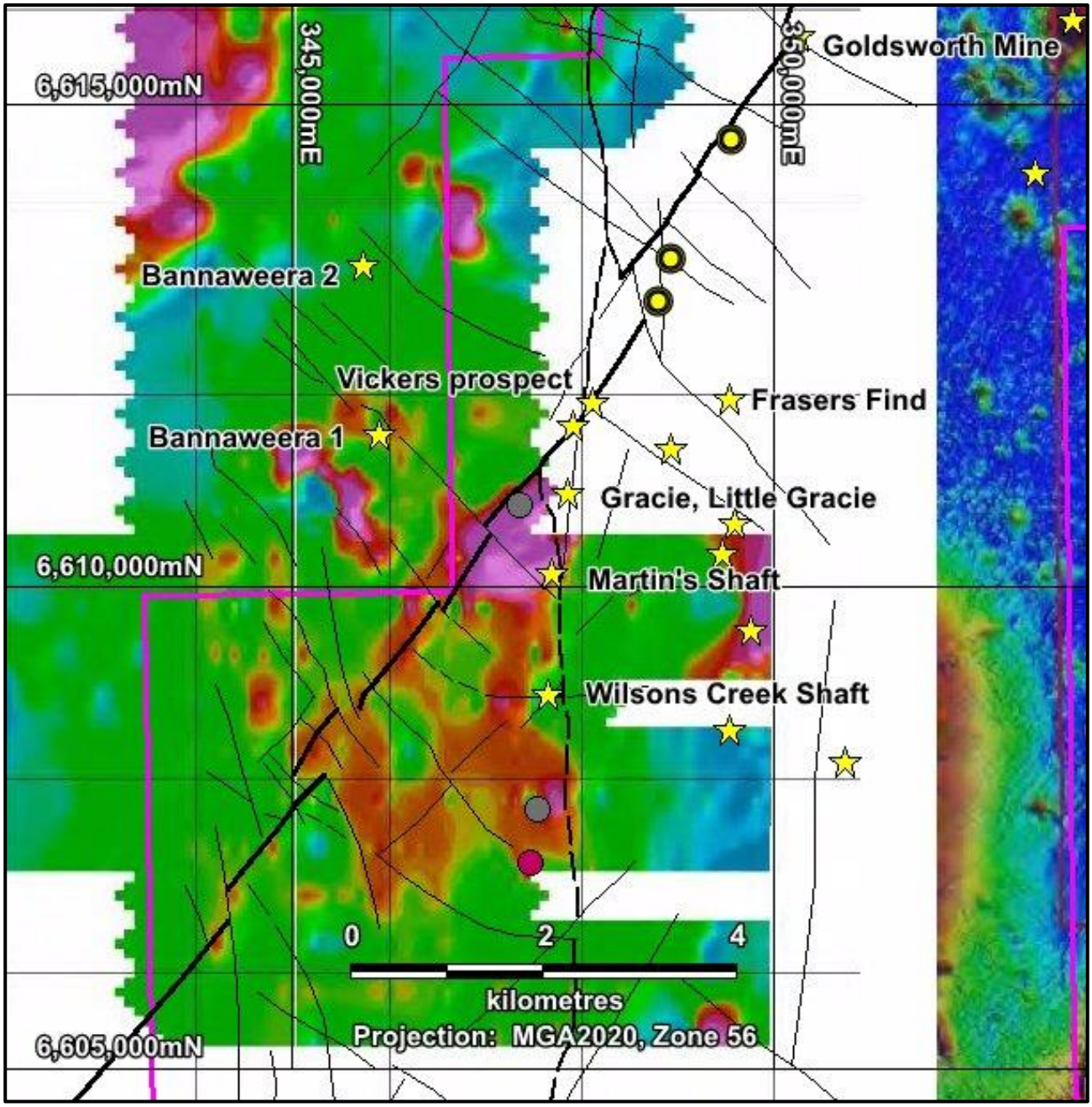

Figure 63: Sugec Resources 2013 ground magnetics

13.7. DRILLING

Sovereign Gold completed a program of seven shallow diamond drillholes (totalling 206.9m), using BQ-size core, along the Bannaweera 1 structure in 2013 (Table 27, Figure 64).

Sugec Resources completed a further 18 diamond drillholes in 2013, 13 using HQ core (1,391m) and 3 using BQ core (121.1m) on the Bannaweera 1 prospect and 2 using HQ core (257.9m) on the Bannaweera 2 prospect.

The drilling was close-spaced, on average around 30m on the main part of the Bannaweera 1 zone, and, with short lengths, did not test much stratigraphy.

HOLE_ID	DRILL_TYPE	East MGA94	North MGA94	RL	Azim	Dip	Length (m)
SGRDD036	DD-BQ	345937	6611550	993	100	-60	20.2
SGRDD037	DD-BQ	345952	6611577	994	105	-60	16.9
SGRDD038	DD-BQ	345938	6611587	992	105	-70	45.3
SGRDD039	DD-BQ	345848	6611426	983	100	-60	18.1
SGRDD043	DD-BQ	345836	6611429	981	98	-60	52.5
SGRDD044	DD-BQ	345984	6611628	995	100	-70	31.6
SGRDD045	DD-BQ	346490	6612619	994	100	-70	22.3
ZK0001	DD-HQ	345907	6611565	990	116.5	-75	150.4
ZK0003	DD-HQ	345896	6611570	989	116.5	-75	146.3
ZK0005	DD-HQ	345861	6611588	987	116.5	-75	220.1
ZK0301	DD-HQ	345856	6611479	992	116.5	-60	54
ZK0701	DD-HQ	345819	6611403	979	116.5	-60	33.9
ZK0703	DD-HQ	345769	6611409	971	116.5	-75	204.5
ZK0303	DD-HQ	345838	6611487	983	116.5	-75	141.1
ZK0401	DD-HQ	345956	6611646	993	116.5	-75	159
ZK0801	DD-HQ	346003	6611736	1002	116.5	-75	128
ZK0901	DD-HQ	345788	6611359	974	116.5	-70	33.6
ZK1101	DD-HQ	345763	6611301	968	116.5	-60	52.7
ZK1201	DD-HQ	346079	6611813	1006	116.5	-70	21.6
ZK1001	DD-HQ	346056	6611768	1006	116.5	-70	45.8
ZK3201	DD-BQ	346343	6612271	1001	116.5	-70	32
ZK3801	DD-BQ	346395	6612404	1005	116.5	-70	44.3
ZK4801	DD-BQ	346484	6612624	1002	116.5	-70	44.8
ZK20001	DD-HQ	345554	6613042	1006	125	-75	145.5
ZK23001	DD-HQ	345958	6613673	1006	125	-75	112.4

Table 27: Diamond drilling at Bannaweera Prospect by Sovereign Gold & Sugec Resources

The drill core intersected narrow zones of alteration and quartz veining in metasediments and porphyritic felsic dykes. Lithological data was not provided in data files available from the NSW Government database (DIGS). This information has been sought from former Sovereign Gold personnel, but without success as at the date of this report.

Assay results showed several zones of low to moderate gold grades. Significant intervals, at >0.5 g/t Au cut-off, are presented in Table 28. Most other sampling intervals returned assays <0.5 g/t Au.

HOLE_ID	From	To	Interval	Au g/t	Ag g/t
SGRDD036	7.0	11.85	4.85	2.75	0.5
SGRDD038	37.0	40.0	3.0	1.21	0.7
SGRDD039	4.0	13.85	9.85	1.26	13.8
SGRDD043	31.0	33.0	2.0	2.01	4.2
ZK0001	79.5	81.5	2.0	0.90	0.5
ZK0001	91.0	96.0	5.0	1.56	0.4
ZK0003	101.85	110.8	8.95	0.80	0.8
ZK0301	43.77	47.2	3.43	1.68	0.3
ZK0303	172.6	175.6	3.0	0.56	0.4
ZK0701	13.79	27.69	13.9	1.45	11.9
ZK0703	185.6	188.8	3.2	1.17	2.7
ZK0901	14.62	20.1	5.48	1.24	54.3
ZK3201	14.79	17.8	3.01	0.61	0.3
ZK23001	9.15	11.73	2.58	0.87	0.3

Table 28: Significant assay intervals from Bannaweera Prospect drilling

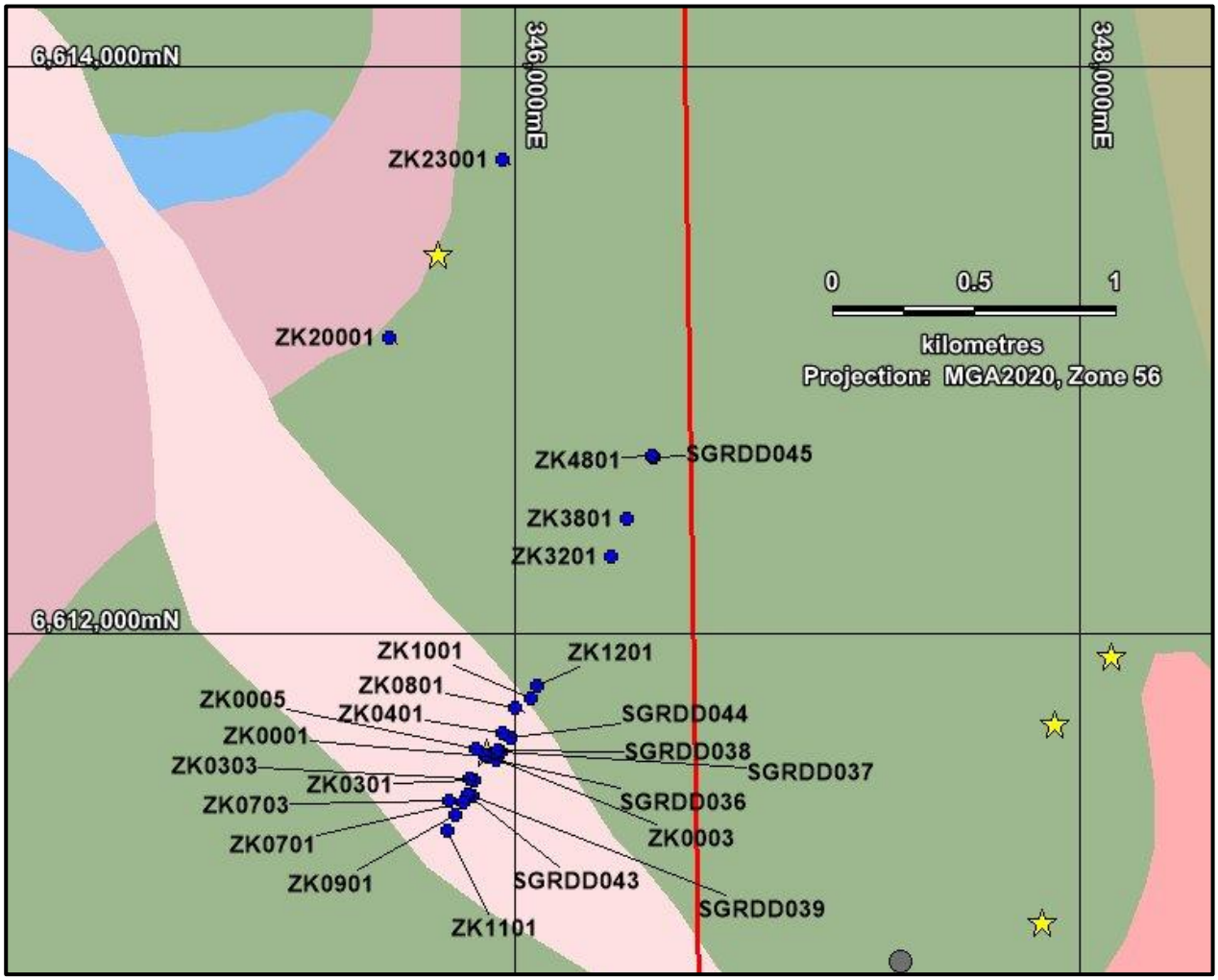

Figure 64: Diamond drilling at Bannaweera Prospect by Sovereign Gold & Sugec Resources

13.8. OPPORTUNITIES

The exploration programs completed over the Bannaweera Prospect have detected significant gold mineralisation. The drilling programs have intersected narrow mineralised zones but have not fully tested the anomalous zones.

The mineralisation includes disseminated sulphides, so further work should include IP surveys to delineate the alteration / mineralisation zones prior to deeper drilling.

14. Risks

14.1. Risk Assessment

Mineral exploration is a high-risk business with no guarantee of success. The Lode Resources projects are at an early stage of development and additional exploration may not necessarily define Mineral Resources or Ore Reserves

Geos Mining has limited the scope of this risk assessment to major factors relevant to the Lode projects. There has been no consideration of political stability, or of the financial risk arising from any lack of liquidity. While we have based our assessment on foreseeable and quantifiable risks, we make no guarantee that all material risks have been included in this assessment.

14.2. Data

The majority of the data used in this assessment of the Lode projects is based on historical exploration results. We have assumed that the historical work was undertaken by competent geoscientists and have taken the results at face value. However, in many instances, the full details of how the data were obtained were not reported. We do not believe that these omissions make a material difference to the understanding of the mineral projects.

We have assumed that the historical rock chip sampling, in most cases, has been selective of better-looking mineralised material that has provided assay results that are indicative of the upper levels of likely grades but do not represent the average tenor of the bulk mineralisation. We do not regard this as a major issue since drilling assays are the main criteria for assessing the value of a mineral deposit.

A high proportion of the historical exploration was undertaken prior to the use of GPS units. Locations of samples and drillholes would have been based on topographic maps or airphotos and may have a significant positional error. Unless historical drillhole collars can still be found in the field, and their positions verified, there is a risk that the reported positions are inaccurate. For the purposes of this report, we have assumed that the inaccuracies are either immaterial or can be readily checked with validation drilling.

14.3. Tenure

New South Wales has an extensive mining history and generally supports ongoing exploration activities. However, security of tenure will depend on the company meeting its obligations with respect to compliance with the Mining Act and terms and conditions of the licence, such as expenditure commitments and environmental management, or risk losing tenure. Tenement holders must also comply with the Exploration Codes of Practice, including the Environmental Management Code, the Rehabilitation Code, and the Community Consultation Code.

We have assumed that Lode Resources will comply with the terms and conditions of the Exploration Licences and that ongoing tenure will apply.

14.4. Access

The majority of the ground within the Lode ELs is freehold land, for which the company requires an Access and Compensation Agreement with the landholder. Best-practice exploration depends on a respectful relationship between explorers and landholders. We have been advised by Lode personnel that such agreements are in place for the main prospects on which drilling is proposed.

Any exploration activity that results in disturbance of the surface requires approval from the NSW Government Resources Regulator. The explorer also needs to deposit assessed security funding to cover rehabilitation costs should the explorer default on their obligations to restore the surface to an appropriate standard of rehabilitation. Lode has provided approvals for three proposed drilling programs on EL8980 (Uralla), EL8933 (Webbs Consols) and EL9003 (Trough Gully).

15. Conclusions

The Lode Resources tenements contain many different styles of mineralisation, but almost all of the significant prospects are associated with structural controls resulting in small-medium tonnage, high grade potential. However, if these prospects are surface expressions of IRGS systems at depth, then bulk tonnage targets may be worth pursuing.

All tenements warrant further exploration programs, including drilling.

In our opinion, the more significant projects that have been defined at this stage are:

- Webbs Consols (EL8933, silver, zinc, lead)
- Lucky Lucy (EL8933, silver, zinc, lead)
- Hudson's prospect (EL8980, gold)
- Martin's Shaft (EL8980, gold)
- McCrossin's (EL8980, gold-?copper)
- Trough Gully (EL9003, copper, gold)
- Bannaweera (EL9087, gold, silver)

All of these prospects warrant drilling, based on information already at hand. However, some additional work, especially IP surveys and grid based soil geochemistry utilising a portable XRF analyser followed up with RAB drilling, may be worthwhile to better define the targets prior to drilling.

Other prospects worthy of detailed exploration (IP surveys, geological mapping, geochemical sampling) include:

- Elsinore (EL9004, gold, copper)
- Kasey (EL9003, copper)
- Goldsworth (EL8980, gold)

- Tangoa & Tangoa West (EL8933, silver, lead, zinc, gold)

16. Proposed Exploration Programs

Lode Resources has proposed two scenarios for Exploration Programs and Budgets:

- Scenario 1: Minimum Subscription totalling $5.0M
- Scenario 2: Maximum Subscription totalling $7.5M

Proposed expenditure for the first two years under the two scenarios is summarised in Table 29.

Project	Program	Scenario 1		Scenario 2	
		Year 1 (A$)	Year 2 (A$)	Year 1 (A$)	Year 2 (A$)
EL8933 - Webbs Consol	IP geophysics Drilling	13,300 227,900	0 321,600	13,300 333,800	0 422,900
EL8980 – Uralla & EL9087 – Uralla West	Soil sampling, mapping IP geophysics[7] RAB drilling Diamond drilling	6,600 13,300 82,000 230,900	0 0 0 322,400	31,500 13,300 82,000 322,400	0 0 0 423,800
EL9003 - Fender	Trough Gully drilling	229,400	321,600	334,900	422,800
EL9004 - Elsinore	Geochemical sampling IP geophysics Diamond drilling	26,500 0 0	0 28,400 0	26,500 20,000 0	0 0 328,900
EL9084 - Tea Tree	Geochemical sampling Geophysics Diamond drilling	35,300 0 0	0 20,000 0	26,500 20,000 0	0 0 328,900
EL9085 - Thor	Geochemical sampling Geophysics Diamond drilling	36,800 0 0	0 20,000 0	38,000 20,000 0	0 0 328,900
Miscellaneous	Personnel, administration, equipment	278,000	228,800	510,300	391,900
Contingency 15%		177,000	189,400	270,400	397,200
	TOTAL EXPLORATION PROGRAM	**$1,357,000**	**$1,452,200**	**$2,072,900**	**$3,045,300**

Table 29: Summary Exploration Programs & Budgets

In Geos Mining's opinion, the proposed program and expenditure levels appear reasonable for the current state of knowledge of the projects.

[7] IP programs have already been conducted over four prospects within EL8980

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Appendix 1 – Land Tenure Maps

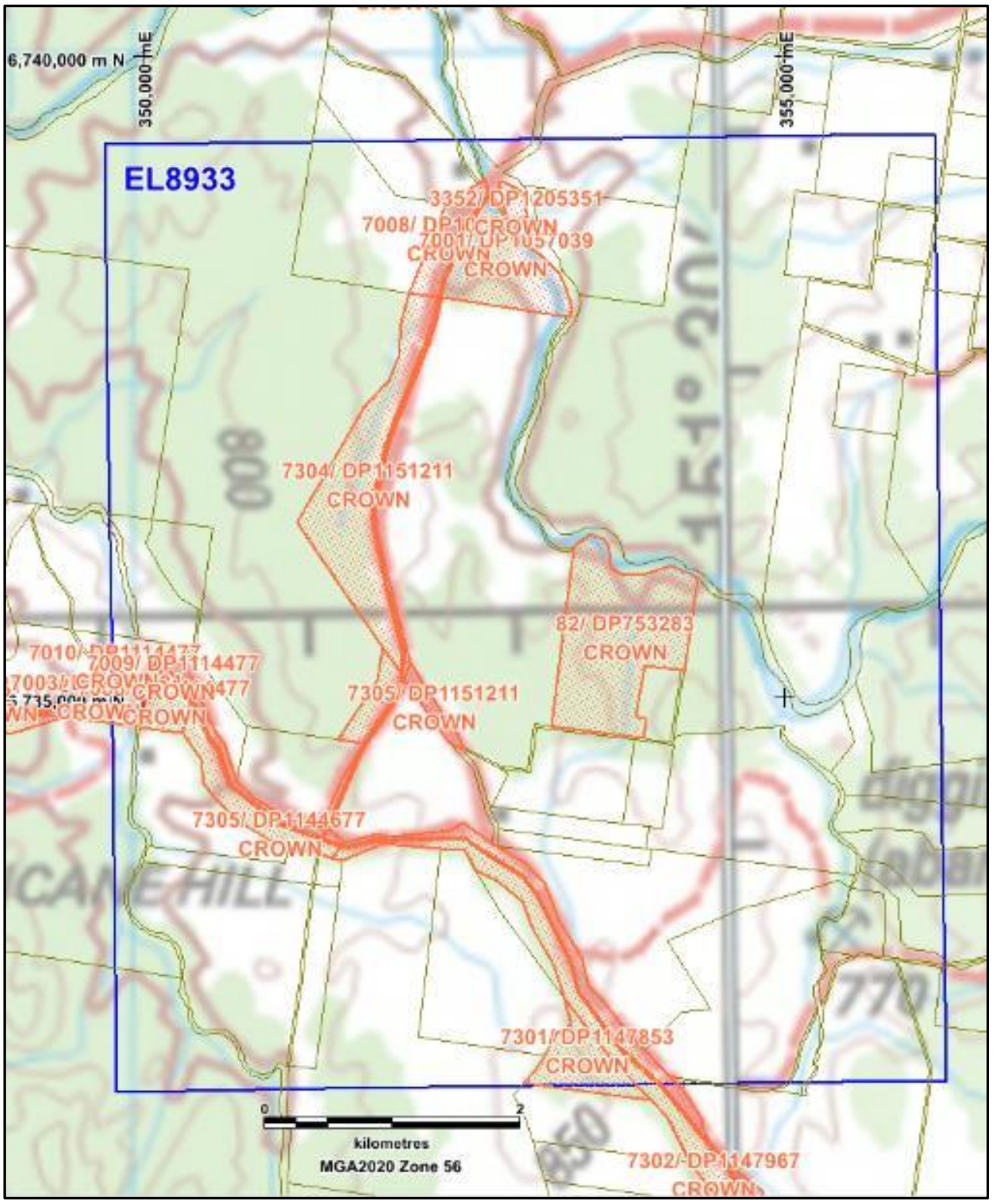

Figure 65: EL8933, Crown Land Distribution (orange polygons)

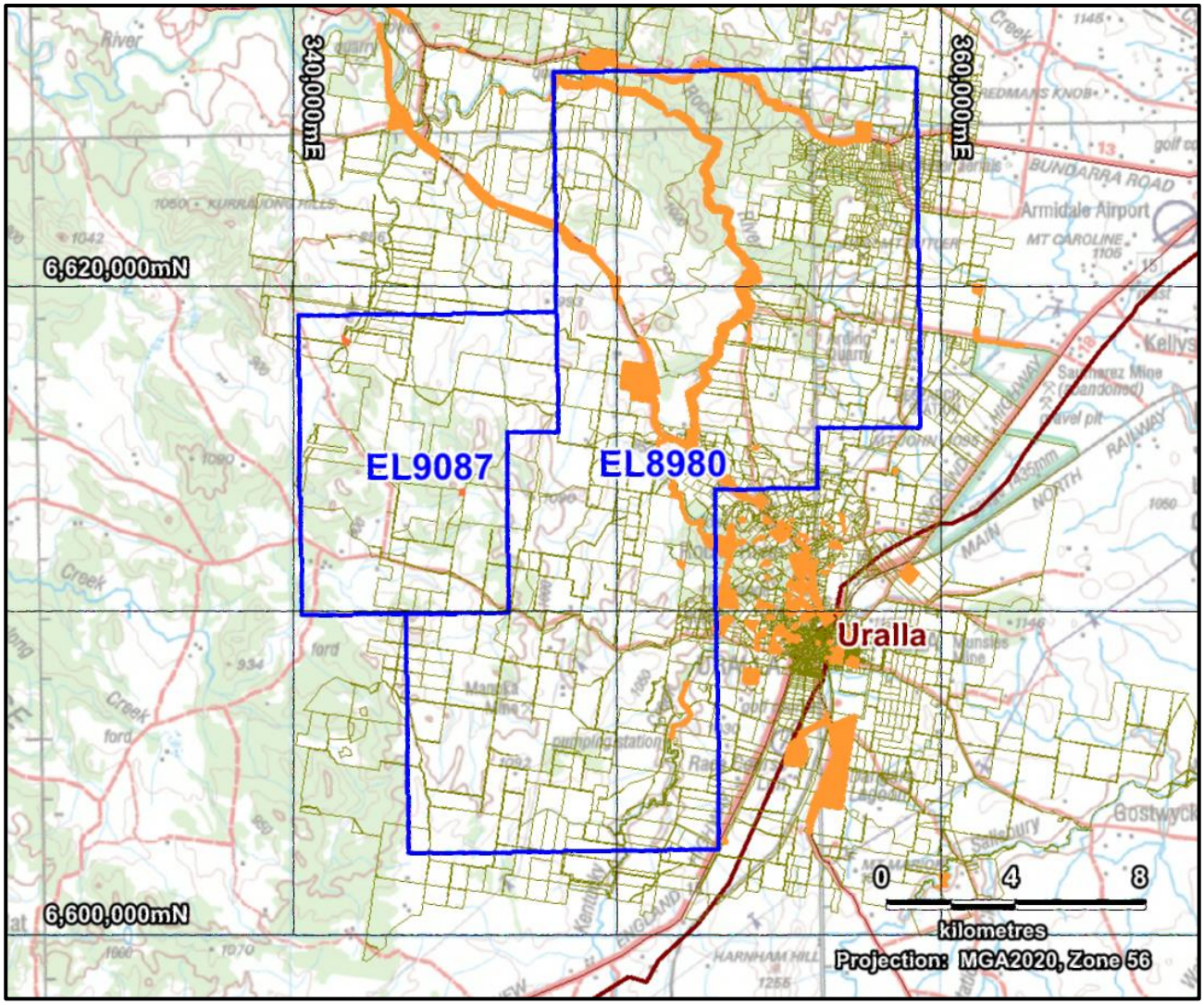

Figure 66: EL8980 & EL9087, Cadastral lots & Crown Land Distribution (orange polygons)

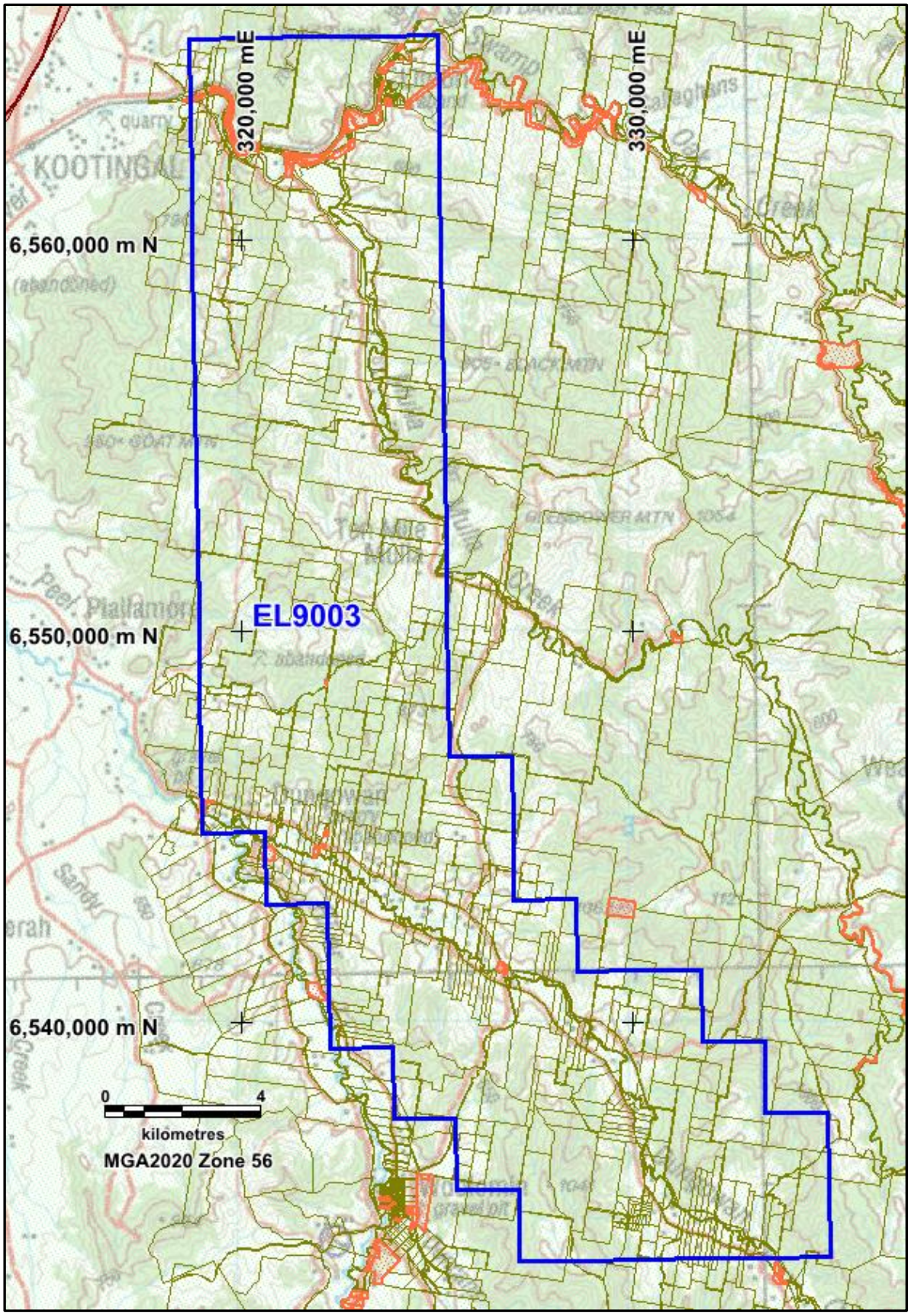

Figure 67: EL9003, Crown Land Distribution (orange polygons)

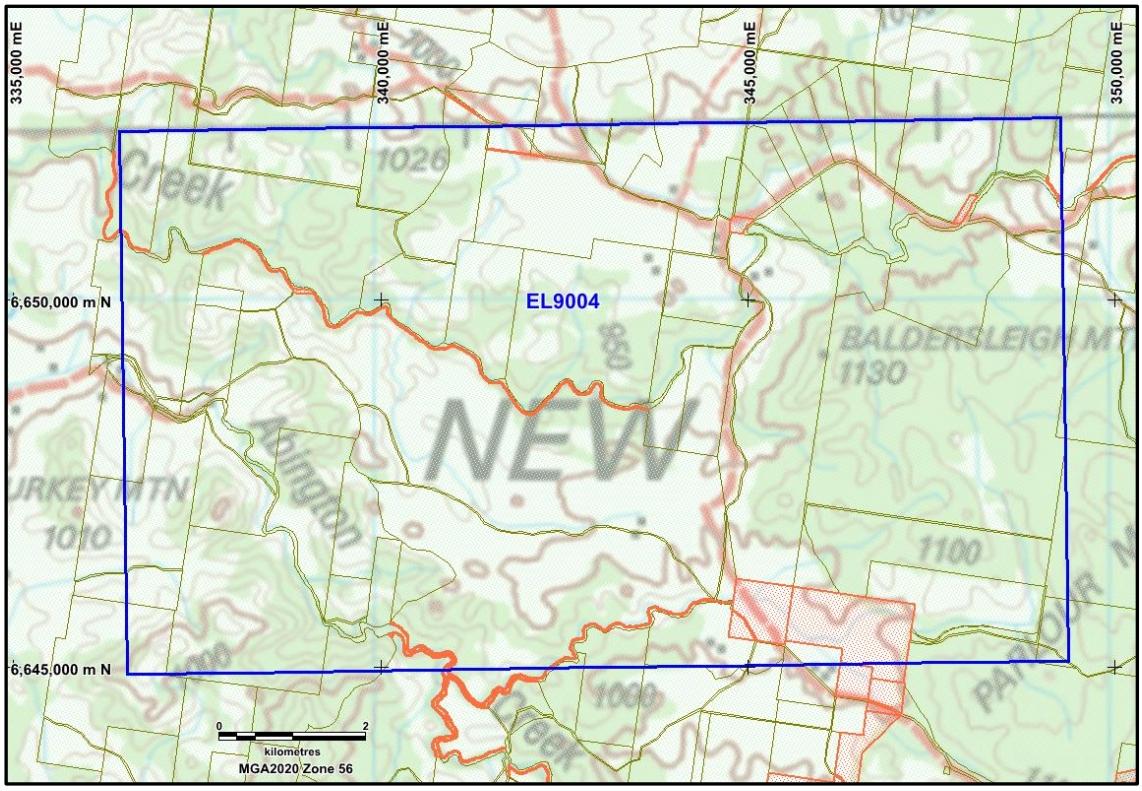

Figure 68: EL9004, Crown Land Distribution (orange polygons)

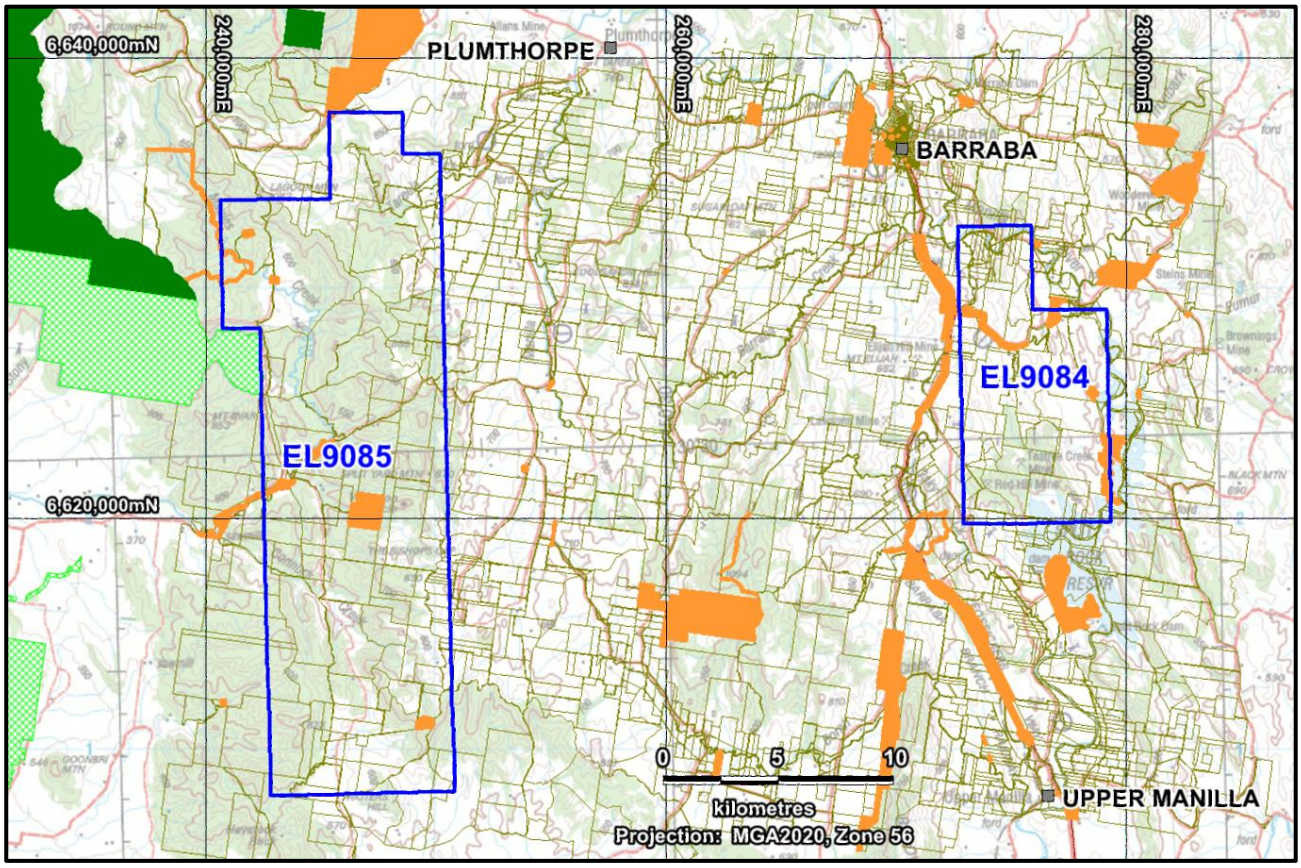

Figure 69: EL9084 & EL9085, Crown Land Distribution (orange polygons)

National Parks – solid green; State Forests – green hatch

Appendix 2 - Native Title & Indigenous Heritage Sites

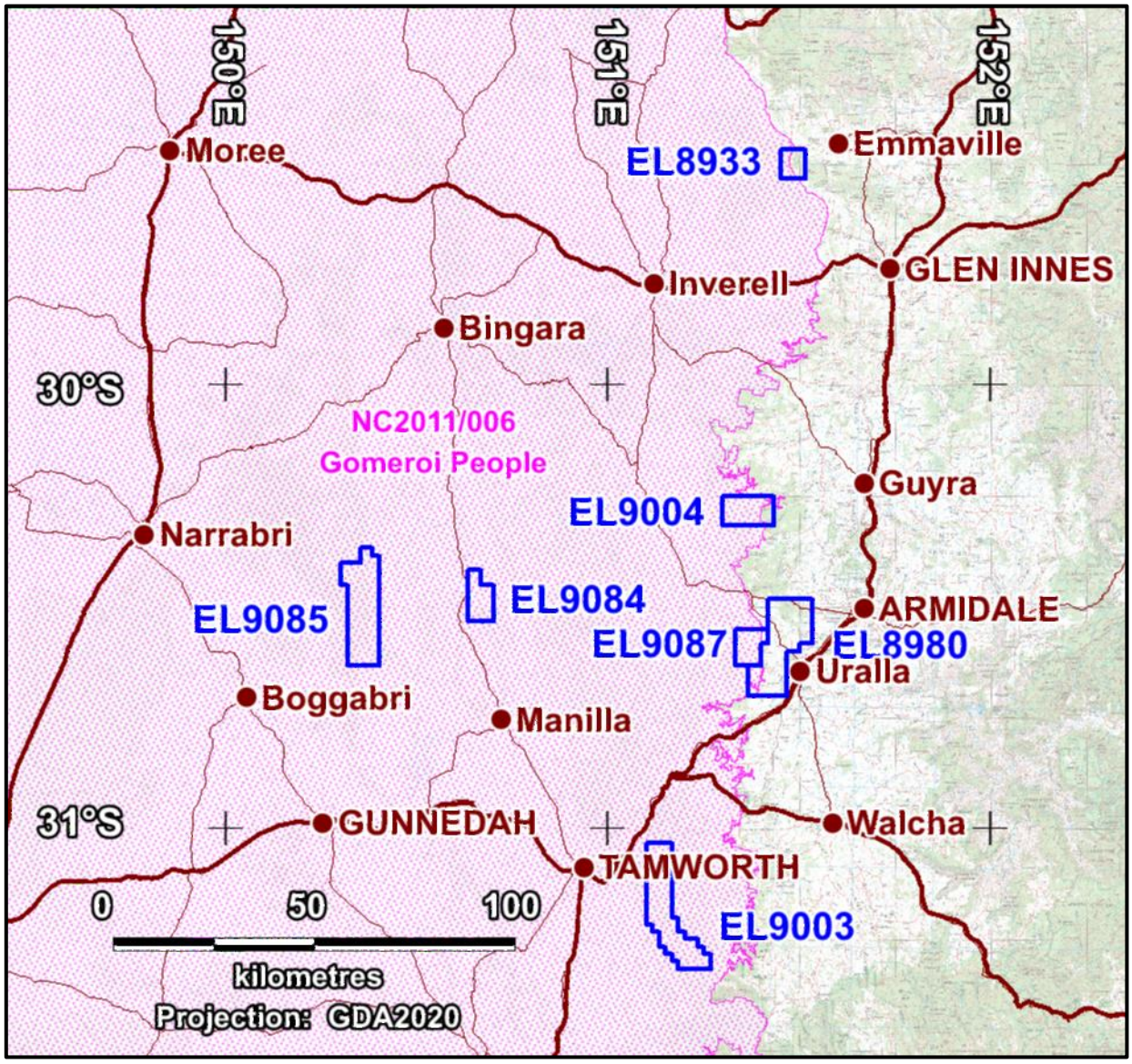

Figure 70: Lode ELs, Native Title Status

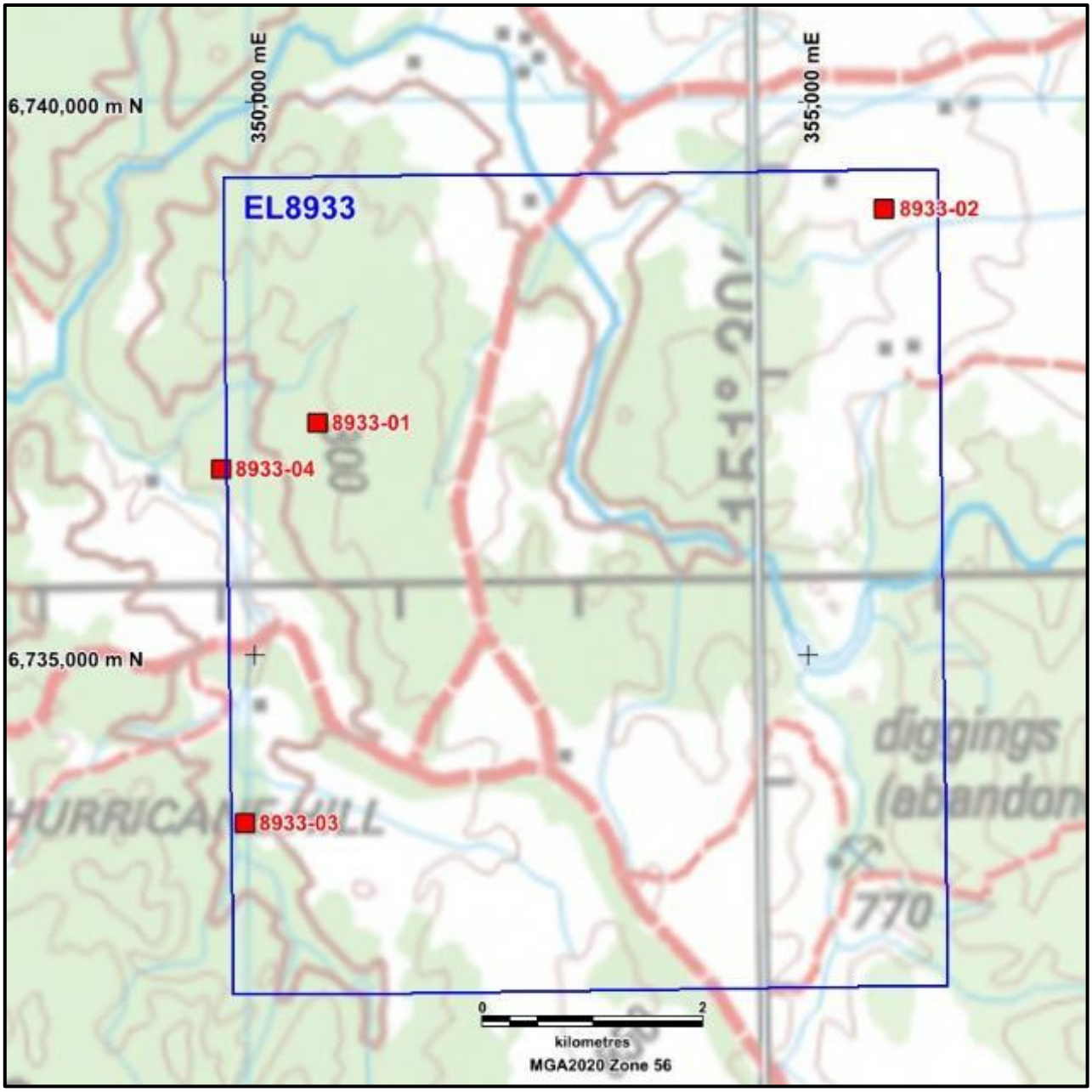

Figure 71: EL8933, Indigenous Cultural Heritage Sites

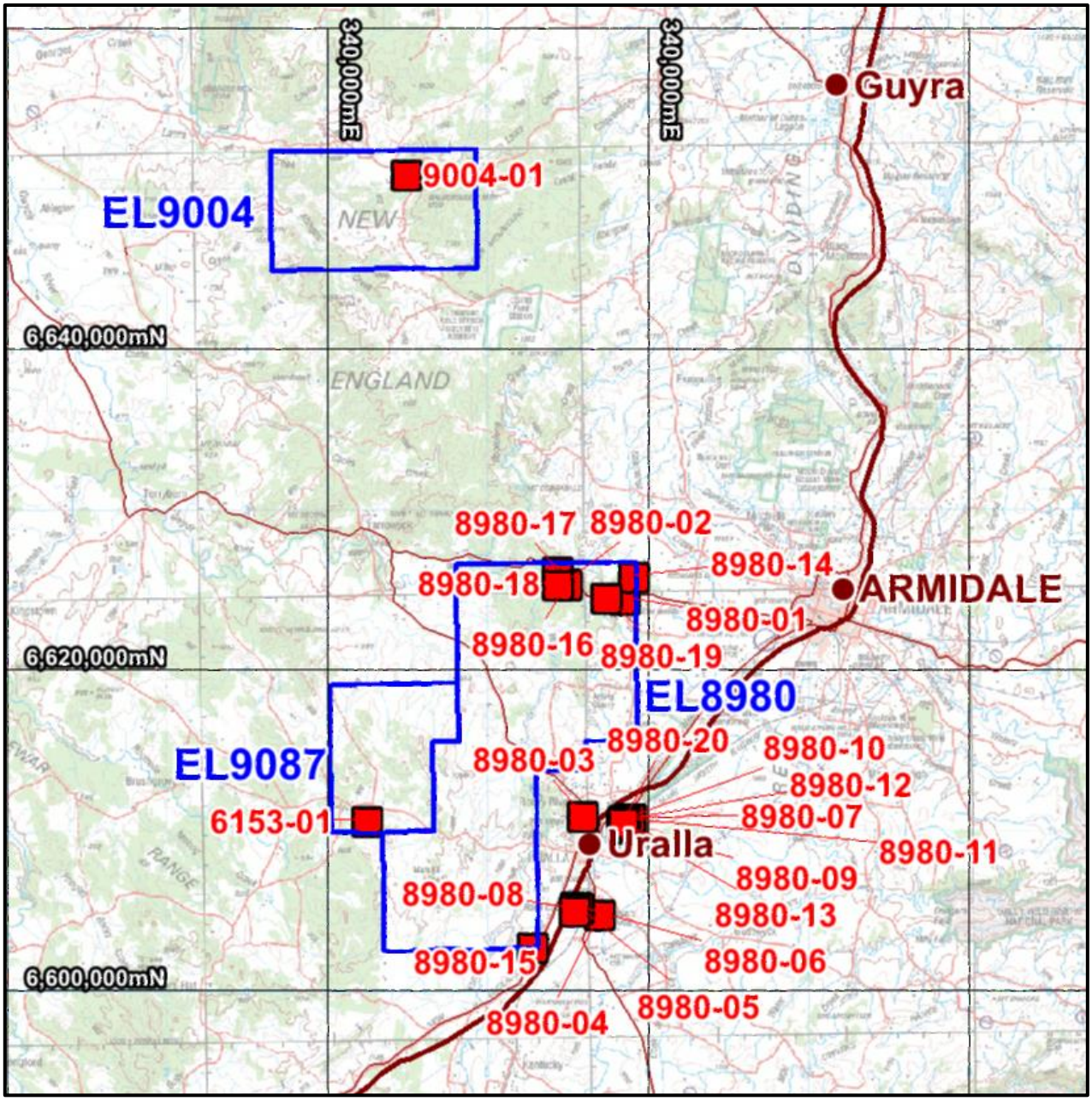

Figure 72: EL8980, EL9004 & EL9087, Indigenous Cultural Heritage Sites

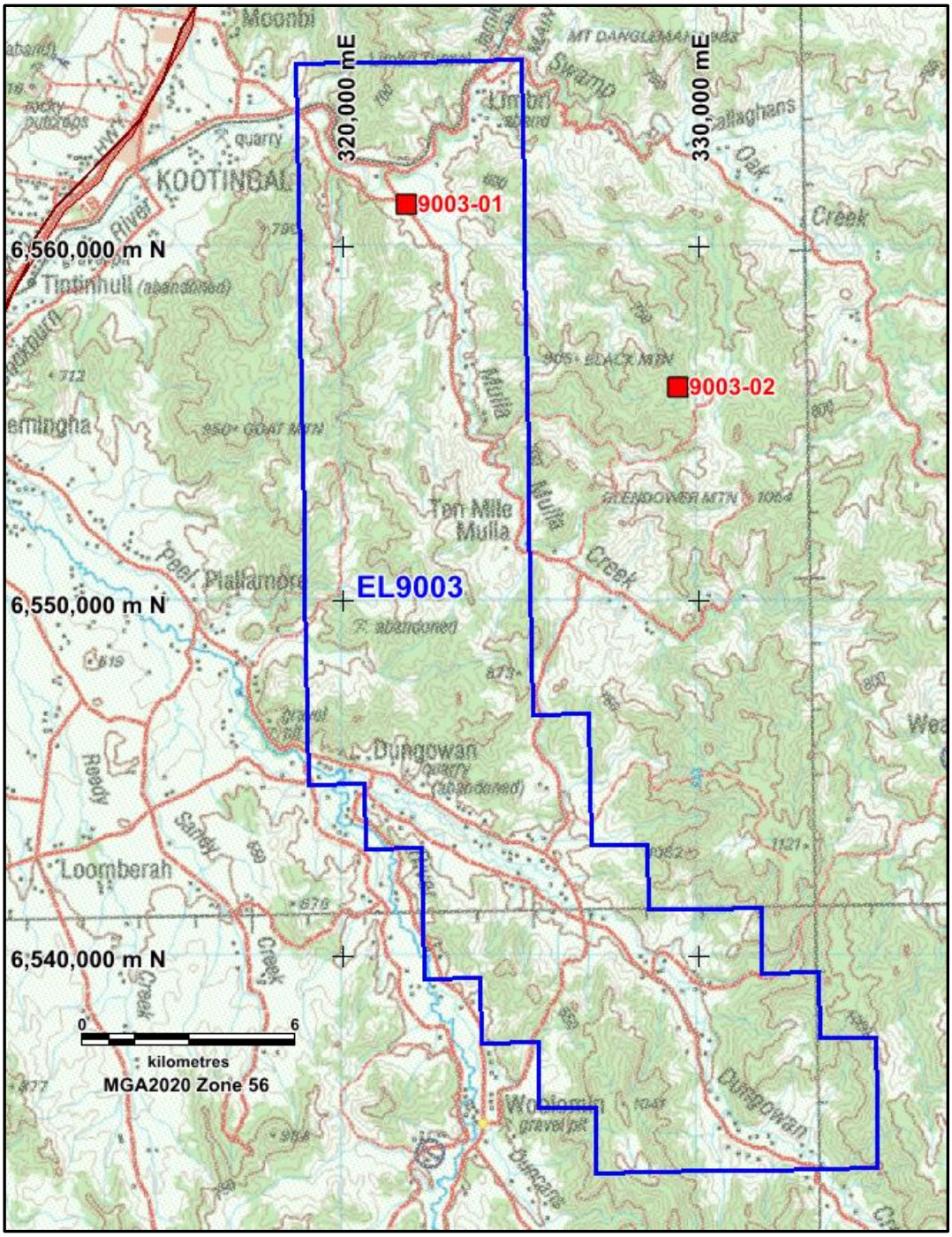

Figure 73: EL9003, Indigenous Cultural Heritage Sites

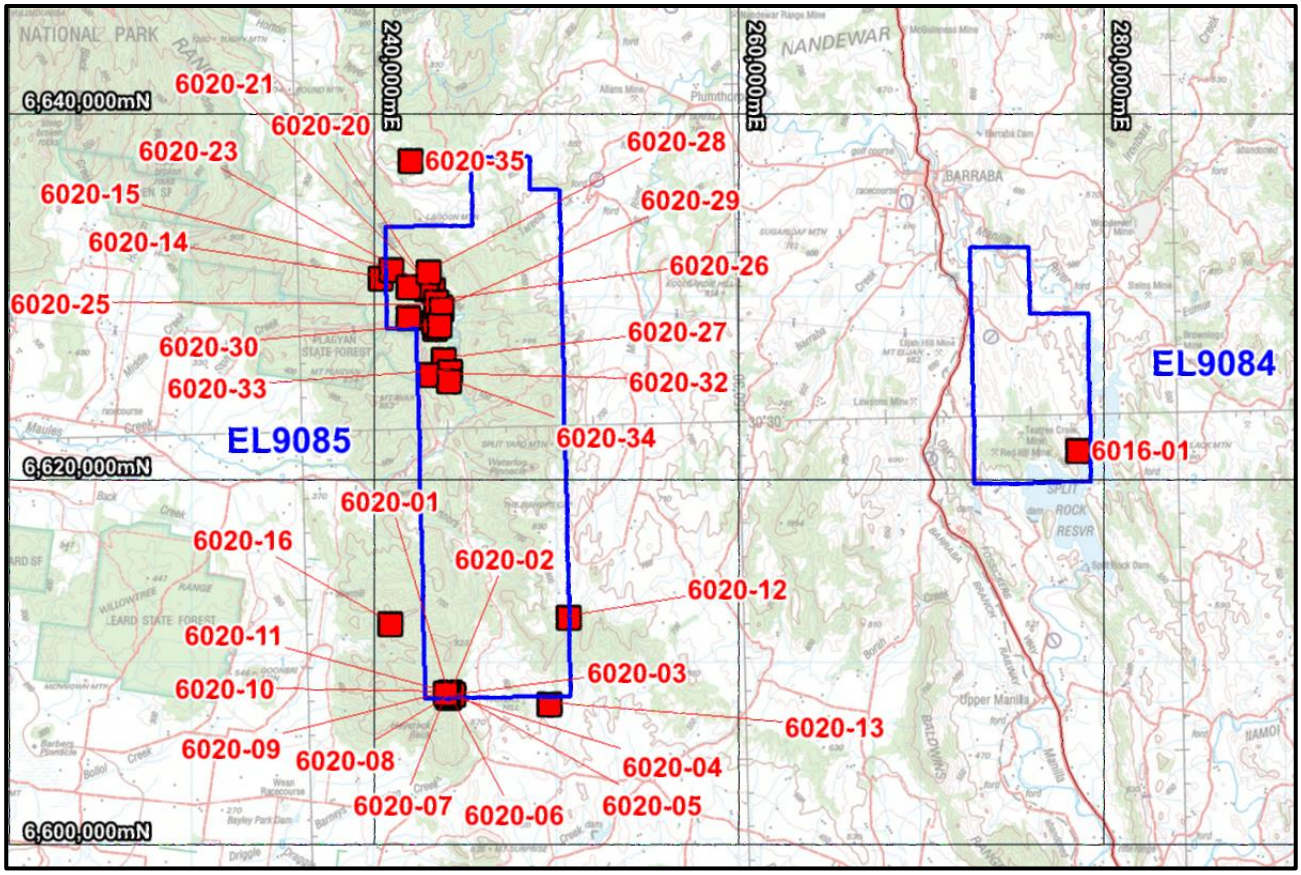

Figure 74: EL9084 & EL9085, Indigenous Cultural Heritage Sites

Tenement	Label	Site ID	Site name	Longitude GDA94	Latitude GDA94	Datum	Zone	Easting	Northing	Context	Combined Type
EL8933	8933-01	11-3-0111	Willows stone flakes	151.4586	-29.4865	GDA	56	350564	6737119	Open site	Artefact
EL8933	8933-02	12-1-0123	Emmaville SF AS7	151.5118	-29.4697	GDA	56	355699	6739053	Open site	Artefact
EL8933	8933-03	11-6-0061	EL22	151.4513	-29.5192	AGD	56	349800	6733300	Open site	Artefact
EL8933	8933-04	11-3-0114	Willows stone artefact seven hills	151.4495	-29.4903	GDA	56	349693	6736694	Open site	Artefact
EL8980	8980-01	21-4-0040	Invergowrie JA2;	151.5257	-30.5035	AGD	56	358420	6624310	Open site	Artefact Isolated Find
EL8980	8980-02	20-3-0061	JA/TEAT2	151.4881	-30.4940	AGD	56	354790	6625310	Open site	Artefact
EL8980	8980-03	20-6-0067	Barley Uralla L&H P1	151.4964	-30.6247	GDA	56	355890	6611030	Open site	Potential Archaeological Deposit (PAD)
EL8980	8980-04	21-4-0097	Dangars Uralla L&H P1	151.5071	-30.6801	GDA	56	357000	6604900	Open site	Potential Archaeological Deposit (PAD)
EL8980	8980-05	20-6-0069	RACECOURSE ISO 2	151.4920	-30.6761	AGD	56	355440	6605130	Open site	Artefact 1
EL8980	8980-06	20-6-0070	RACECOURSE OS 1	151.4931	-30.6764	AGD	56	355548	6605100	Open site	Artefact 1
EL8980	8980-07	21-4-0108	BARLEY M1	151.5284	-30.6267	GDA	56	358963	6610845	Open site	Artefact 1
EL8980	8980-08	20-6-0068	RACECOURSE ISO 3	151.4908	-30.6783	GDA	56	355430	6605080	Open site	Artefact 1
EL8980	8980-09	21-4-0109	Barley OS 5	151.5225	-30.6320	GDA	56	358407	6610250	Open site	Artefact
EL8980	8980-10	21-4-0110	Barley OS 1	151.5272	-30.6267	GDA	56	358850	6610840	Open site	Artefact
EL8980	8980-11	21-4-0111	Barley OS 2	151.5240	-30.6274	GDA	56	358540	6610760	Open site	Artefact
EL8980	8980-12	21-4-0112	Barley OS 3	151.5231	-30.6282	GDA	56	358450	6610670	Open site	Artefact
EL8980	8980-13	21-4-0113	Barley OS4	151.5220	-30.6301	GDA	56	358349	6610456	Open site	Artefact
EL8980	8980-14	21-1-0052	Invergowrie JA3;	151.5324	-30.4908	AGD	56	359040	6625720	Open site	Artefact Isolated Find
EL8980	8980-15	20-6-0018	Church Gully Uralla	151.4630	-30.6986	AGD	56	352700	6602600	Closed site	Artefact Shelter with Deposit
EL8980	8980-16	20-3-0042	JA/Teat 1	151.4884	-30.4944	AGD	56	354820	6625270	Open site	Artefact Open Camp Site
EL8980	8980-17	20-3-0043	JA/pinn 1	151.4825	-30.4875	AGD	56	354250	6626030	Open site	Artefact Open Camp Site
EL8980	8980-18	20-6-0019	Pinnacle Cherry Hill	151.4826	-30.4941	AGD	56	354270	6625290	Open site	Axe Grinding Groove
EL8980	8980-19	21-4-0075	JA/ Invg 1	151.5141	-30.5025	AGD	56	357300	6624400	Open site	Artefact 27
EL8980	8980-20	21-4-0167	Barley Q 4	151.5231	-30.6284	AGD	56	358349	6610456	Open site	Artefact
EL9003	5885-01	29-3-0047	Kootingal ST 2	151.1317	-31.0691	AGD	56	321645	6561053	Open site	Modified Tree (Carved or Scarred)

Tenement	Label	Site ID	Site name	Longitude GDA94	Latitude GDA94	Datum	Zone	Easting	Northing	Context	Combined Type
EL9003	5885-02	29-2-0074	Tamworth Airport Boundary; TAB;	151.2110	-31.1167	AGD	56	329300	6555900	Open site	Artefact Isolated Find
EL9004	5895-01	20-3-0072	LAURA CREEK OS1	151.3878	-30.2625	AGD	56	344800	6650840	Open site	Artefact 1
EL9084	6016-01	20-5-0014	Manilla River; Oakvale	150.6928	-30.5167	AGD	56	278500	6621500	Open site	Artefact Open Camp Site
EL9085	6020-01	20-4-0938	BC 19/1	150.3300	-30.6297	GDA	56	244078	6608394	Open site	Artefact, Hearth
EL9085	6020-02	20-4-0939	BC 19/2	150.3300	-30.6318	GDA	56	244086	6608160	Open site	Artefact
EL9085	6020-03	20-4-0940	BC 19/3	150.3305	-30.6314	GDA	56	244132	6608211	Open site	Modified Tree (Carved or Scarred)
EL9085	6020-04	20-4-0941	BC 19/4	150.3295	-30.6313	GDA	56	244033	6608220	Open site	Artefact
EL9085	6020-05	20-4-0889	BC_FL_IF 1/17	150.3310	-30.6294	GDA	56	244176	6608436	Open site	Artefact
EL9085	6020-06	20-4-0890	BC_FL_AS 3/17	150.3298	-30.6296	GDA	56	244057	6608404	Open site	Artefact
EL9085	6020-07	20-4-0891	BC_FL_IF 4/17	150.3289	-30.6297	GDA	56	243977	6608399	Open site	Artefact
EL9085	6020-08	20-4-0892	BC_FL_IF 5/17	150.3330	-30.6304	GDA	56	244374	6608323	Open site	Artefact
EL9085	6020-09	20-4-0893	BC_FL_IF 6/17	150.3308	-30.6293	GDA	56	244155	6608439	Open site	Artefact
EL9085	6020-10	20-4-0894	BC_FL_IF 18/17	150.3299	-30.6296	GDA	56	244070	6608404	Open site	Artefact
EL9085	6020-11	20-4-0896	BC_FL_T 10/17	150.3287	-30.6298	GDA	56	243959	6608380	Open site	Modified Tree (Carved or Scarred)
EL9085	6020-12	20-4-0864	BC5/18	150.3997	-30.5936	GDA	56	250671	6612550	Open site	Artefact
EL9085	6020-13	20-4-0870	BC1/18	150.3877	-30.6361	GDA	56	249631	6607814	Open site	Artefact
EL9085	6020-14	20-1-0140	Wirradale AS25	150.2968	-30.4243	GDA	56	240355	6631095	Open site	Artefact
EL9085	6020-15	20-1-0141	Wirradale AS24	150.3032	-30.4202	GDA	56	240956	6631563	Open site	Artefact
EL9085	6020-16	20-4-0095	Dripping Rock Cave Site	150.2975	-30.5947	AGD	56	240767	6612008	Closed site	Aboriginal Resource and Gathering, Shell, Modified Tree (Carved or Scarred) 1, Water Hole
EL9085	6020-17	20-1-0092	Willeroi AS10	150.3275	-30.4498	GDA	56	243364	6628333	Open site	Artefact
EL9085	6020-18	20-1-0093	Willeroi AS9	150.3286	-30.4483	GDA	56	243467	6628505	Open site	Artefact
EL9085	6020-19	20-1-0094	Willeroi AS8	150.3268	-30.4466	GDA	56	243293	6628695	Open site	Artefact
EL9085	6020-20	20-1-0095	Willeroi AS7	150.3308	-30.4391	GDA	56	243662	6629531	Open site	Artefact
EL9085	6020-21	20-1-0096	Willeroi AS1	150.3264	-30.4309	GDA	56	243214	6630433	Open site	Artefact

Tenement	Label	Site ID	Site name	Longitude GDA94	Latitude GDA94	Datum	Zone	Easting	Northing	Context	Combined Type
EL9085	6020-22	20-1-0097	Willeroi AS2	150.3233	-30.4302	GDA	56	242910	6630505	Open site	Artefact
EL9085	6020-23	20-1-0098	Willeroi AS3	150.3228	-30.4288	GDA	56	242862	6630653	Open site	Artefact
EL9085	6020-24	20-1-0099	Willeroi AS4	150.3127	-30.4286	GDA	56	241894	6630659	Open site	Artefact
EL9085	6020-25	20-1-0100	Willeroi AS5	150.3283	-30.4384	GDA	56	243420	6629604	Open site	Artefact
EL9085	6020-26	20-1-0101	Willeroi AS6	150.3281	-30.4367	GDA	56	243396	6629789	Open site	Artefact
EL9085	6020-27	20-1-0102	Willeroi AS11	150.3316	-30.4650	GDA	56	243801	6626664	Open site	Artefact
EL9085	6020-28	20-1-0103	Willeroi IA2	150.3244	-30.4216	GDA	56	242993	6631455	Open site	Artefact
EL9085	6020-29	20-1-0104	Willeroi IA1	150.3315	-30.4403	GDA	56	243728	6629402	Open site	Artefact
EL9085	6020-30	20-1-0105	Willeroi AS15	150.3297	-30.4479	GDA	56	243574	6628552	Open site	Artefact
EL9085	6020-31	20-1-0107	Willeroi AS13	150.3125	-30.4441	GDA	56	241916	6628935	Open site	Artefact
EL9085	6020-32	20-1-0108	Willeroi AS12	150.3243	-30.4725	GDA	56	243120	6625808	Open site	Artefact
EL9085	6020-33	20-1-0109	Willeroi IA3	150.3353	-30.4710	GDA	56	244169	6626009	Open site	Artefact
EL9085	6020-34	20-1-0111	Willeroi Artefact 01	150.3347	-30.4756	GDA	56	244124	6625492	Open site	Artefact
EL9085	6020-35	20-1-0161	Mt Lindsay AS4	150.3158	-30.3663	GDA	56	242021	6637564	Open site	Artefact
EL9087	6153-01	20-6-0010	Balala	151.36	-30.63	AGD	56	342400	6610500	Closed site	Art (Pigment or Engraved): - Shelter with Art

Table 30: List of Indigenous Cultural Sites

Appendix 3 – Areas of Environmental Concern

Item	Description
Red filled polygons	Travelling Stock Reserves (high conservation values)
Orange filled polygons	Travelling Stock Reserves (medium conservation values)
Green filled polygons	Strategic Agricultural Land
Filled circles	Critically endangered (red), endangered (orange), vulnerable (yellow), not threatened (green)
Unfilled circles	Flora surveys
Filled squares	Koala sightings
Green and purple polylines	Threatened freshwater fish

Table 31: Legend for areas of environmental concern

For Figure 75 to Figure 80

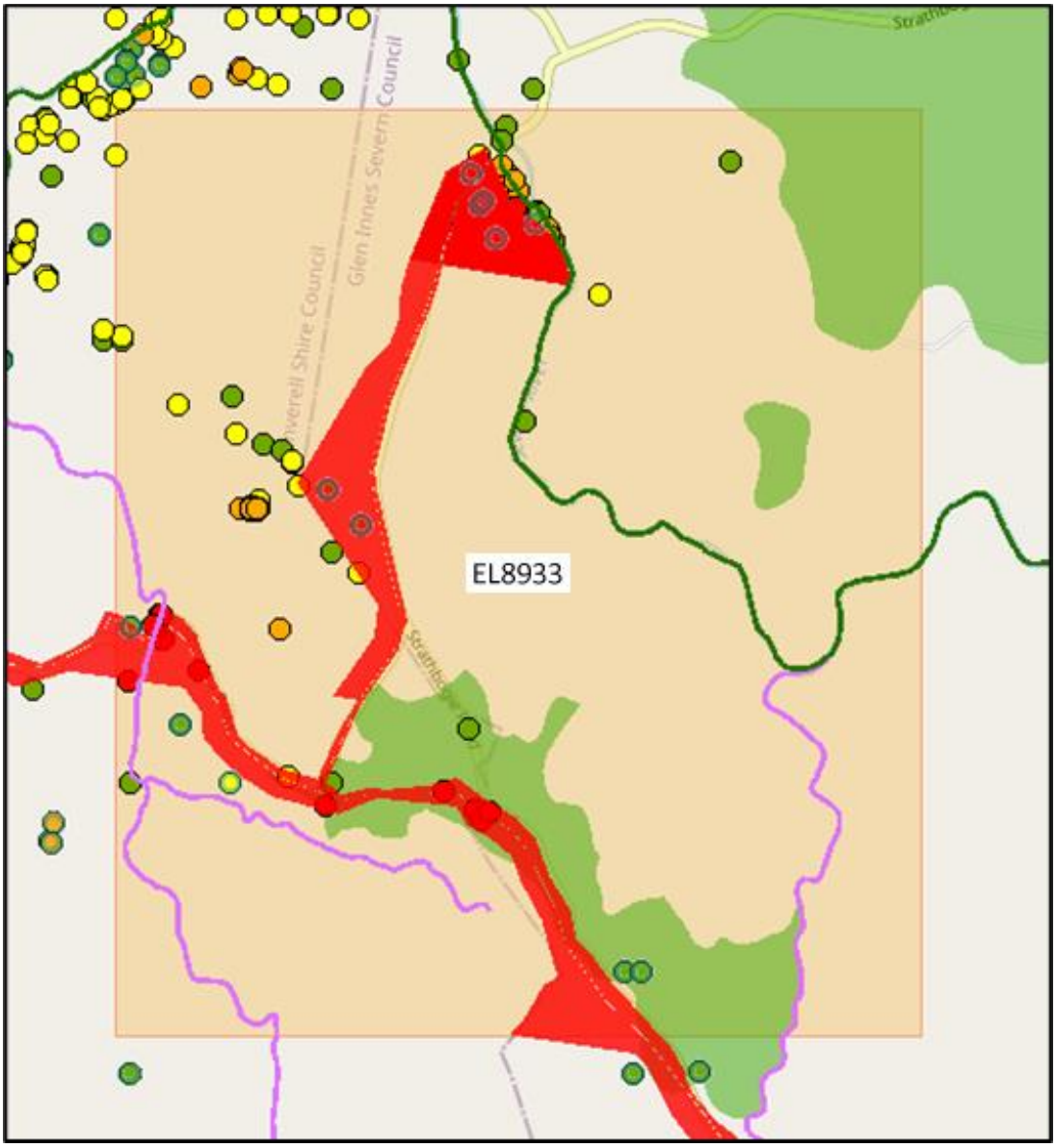

Figure 75: EL8933 Environmental Values

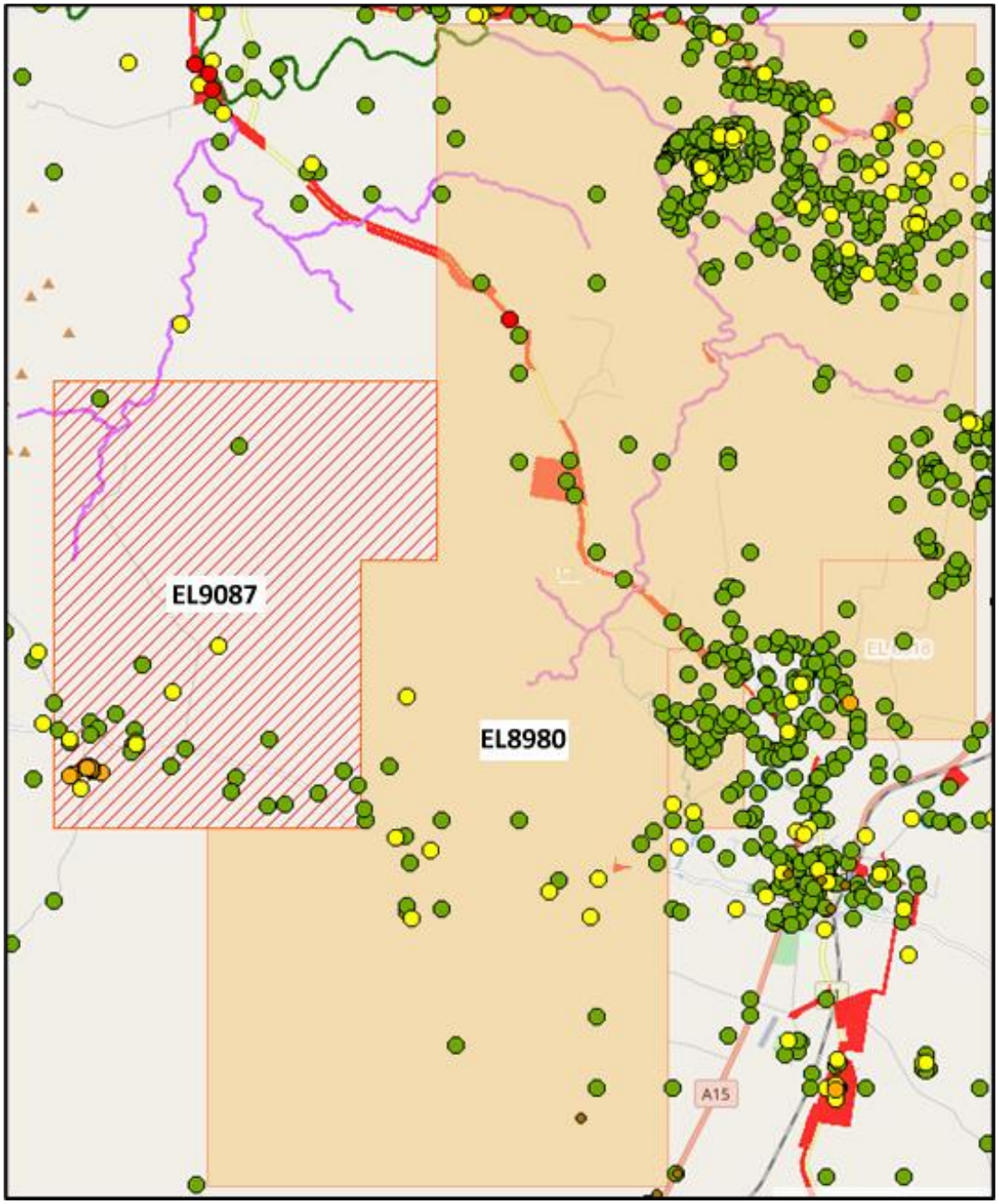

Figure 76: EL8980 and EL9087 Environmental Values

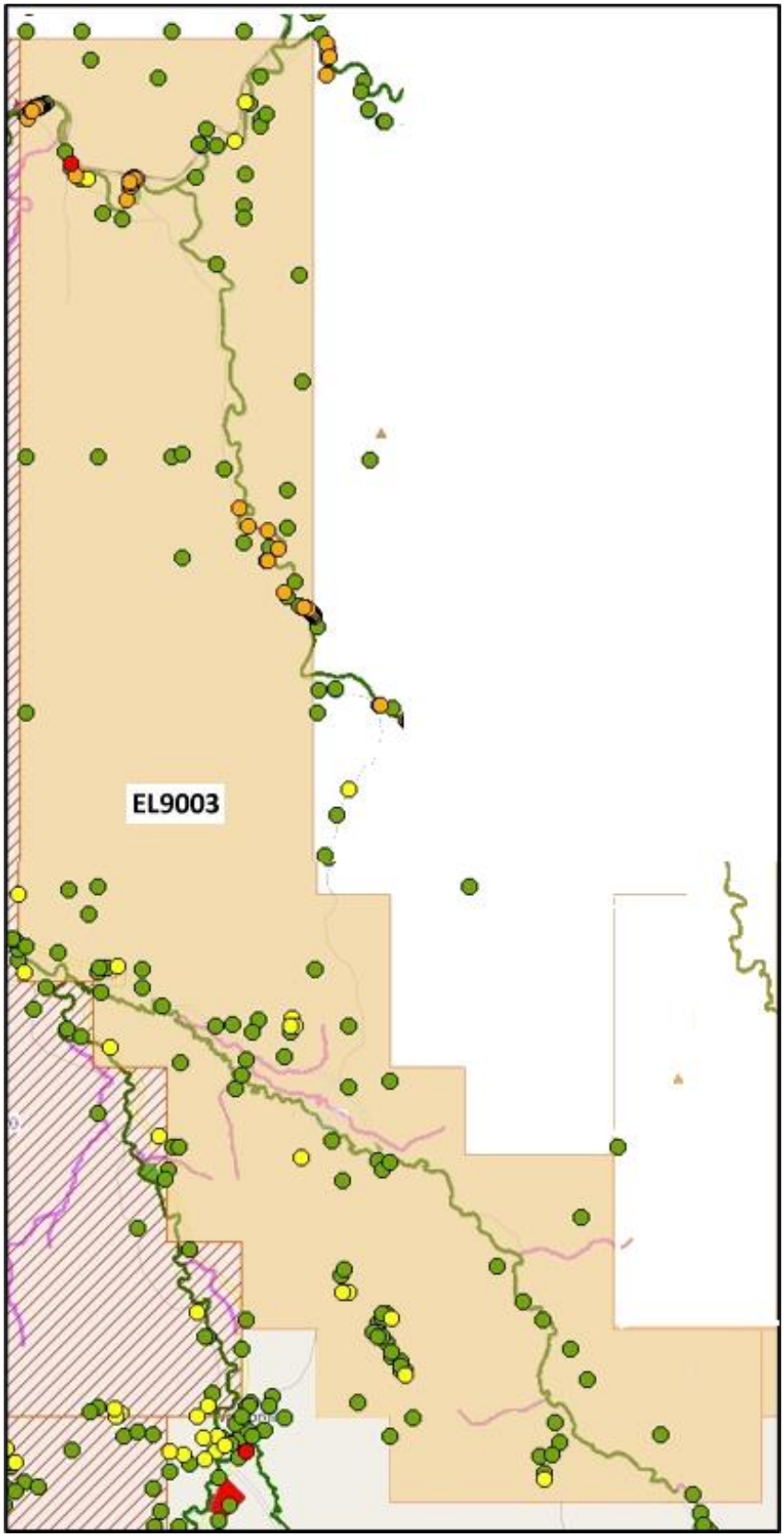

Figure 77: EL9003 Environmental Values

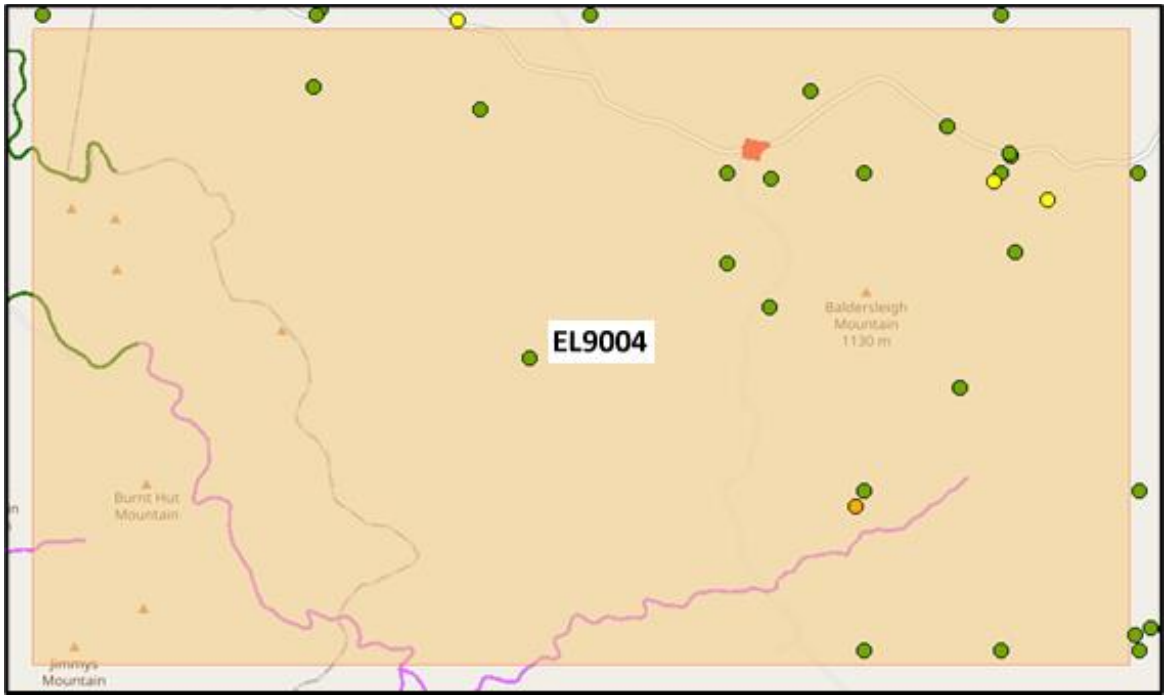

Figure 78: EL9004 Environmental Values

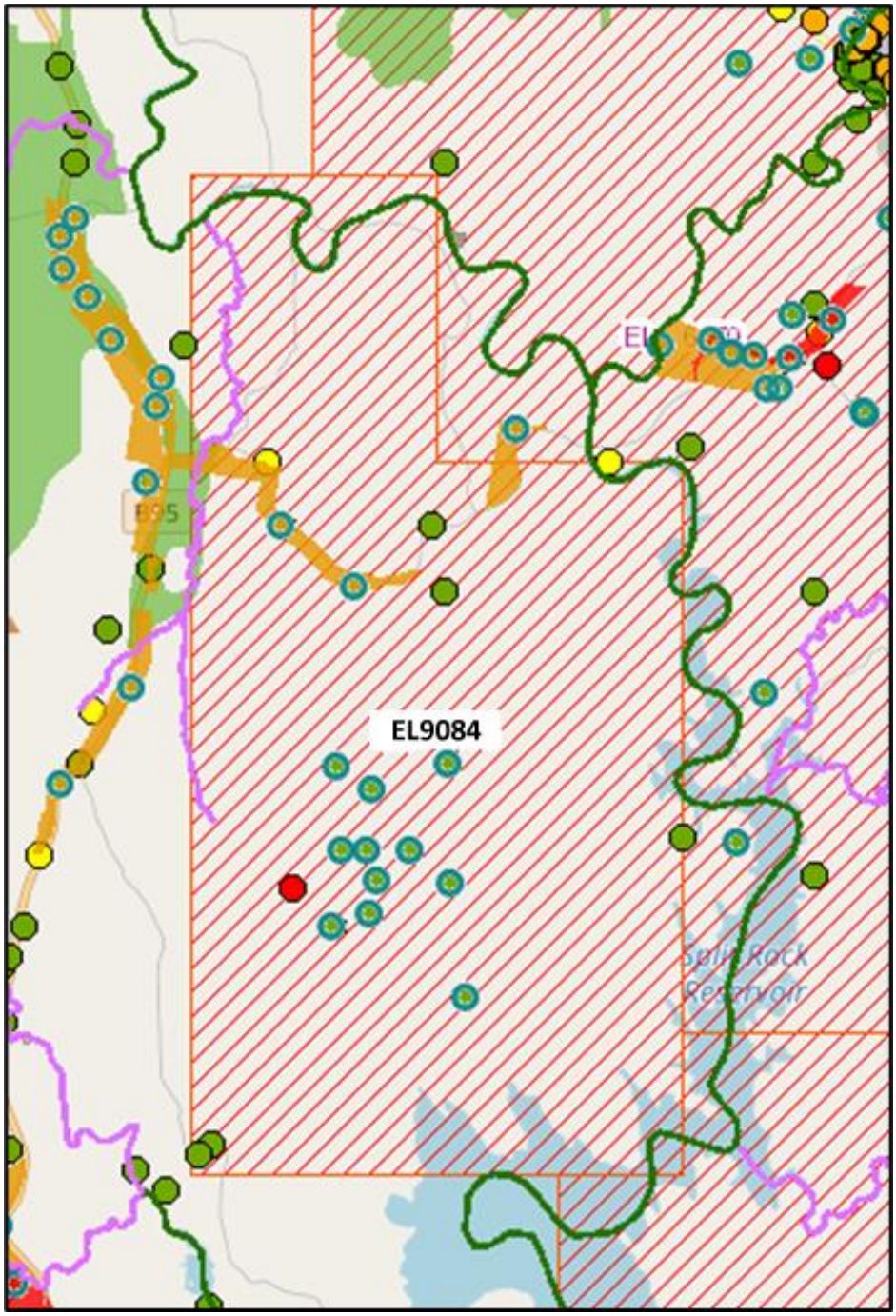

Figure 79: EL9084 Environmental Values

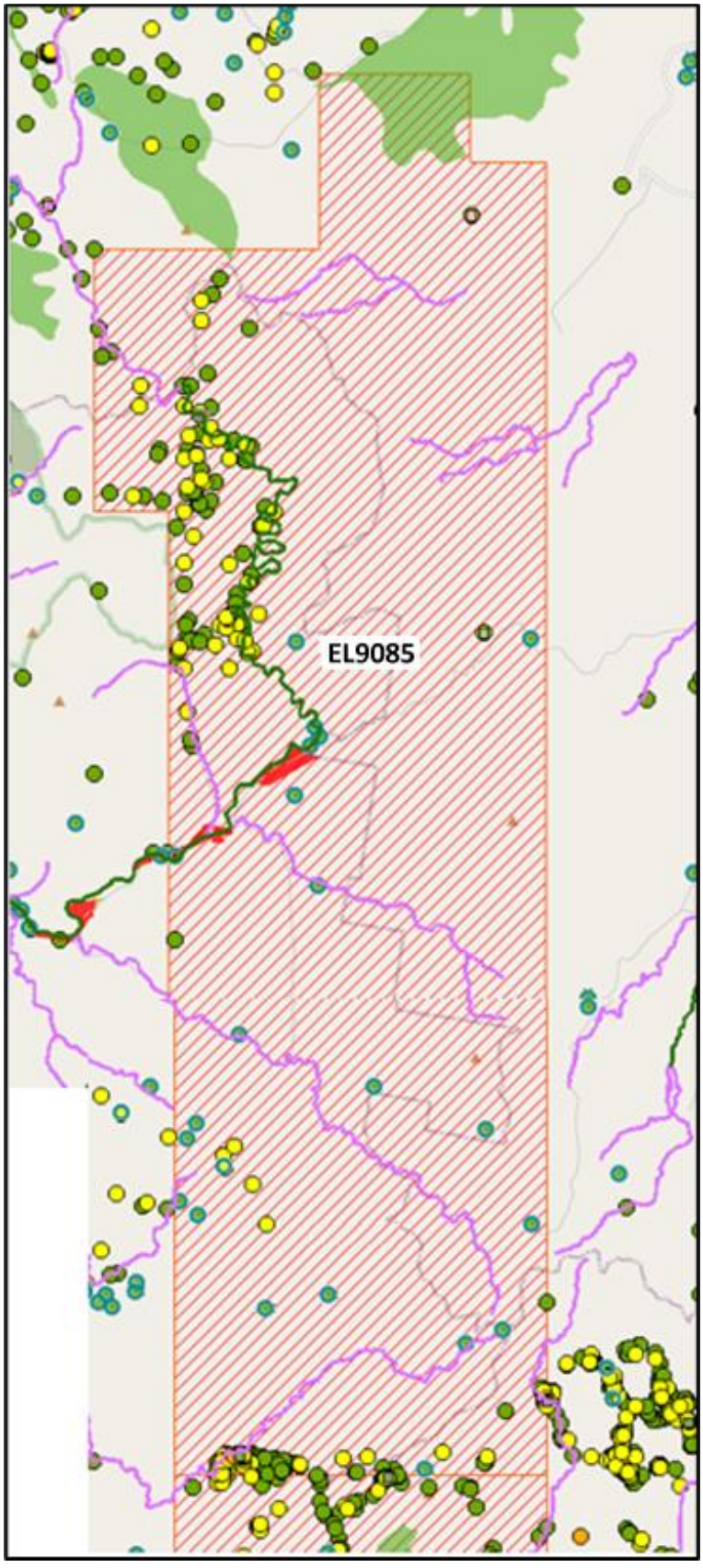

Figure 80: EL9085 Environmental Values

Appendix 4 – List of Mineral Occurrences within Lode tenements

Source: GSNSW Minview Mineral occurrences database & historical exploration reports.

While the GSNSW classifies the historical occurrences by size, these classifications are not being disclosed as the basis for the classifications is unknown and/or unreliable. Furthermore, the Competent Person and/or company does not consider that the classifications should be relied upon by investors in any investment decision.

Lode_EL	Occurrence Name	Comm	Long	Lat	Oper.	Depth	Dip Dir	Strike	Description
EL8933	Bartons quarry	Pb, Ag, Zn, Au	151.47659	-29.49605	o/c & u/g mine	3	258	348	Underground workings, open cut(s), shaft(s), shallow pits or scrapings. Pipe-like in the 348 striking fracture zone - joint, dips 83 to west.
EL8933	Lucky Lucy shaft	Pb,Ag	151.47605	-29.49099	u/g mine	22	120	210	Underground workings, shaft(s), shallow pits or scrapings. Probably 030 and vertical.
EL8933	Mathews mine	Ag	151.45175	-29.48854	unk				
EL8933	ML18 prospect	Pb,Ag	151.47873	-29.49138	u/g mine	8	10	100	Shaft(s), shallow pits or scrapings. Strike of workings 100 and apparently vertical.
EL8933	Mount Galena mines	Pb, Ag, Zn, Au	151.47857	-29.49472	u/g mine	52		30	Underground workings, shaft(s), shallow pits or scrapings. Possibly 030 True; mostly disseminated in altered host rock.
EL8933	Munsies prospect	Ag	151.46708	-29.47717	pit(s)	1	120	210	Shallow pits or scrapings. Some veining present with 030 strike and vertical dip.
EL8933	Neild and Rose prospect	Ag	151.50128	-29.4864	unk		0	0	
EL8933	Northern Lucy prospect	Pb,Ag	151.47669	-29.48982	u/g mine	7	170	80	Underground workings, shaft(s), shallow pits or scrapings. Strike appears to be 080 True and vertical dip.
EL8933	Seatons mine	Ag,Sn	151.46299	-29.49499	u/g mine	3			Dredging or sluicing, shaft(s), shallow pits or scrapings.
EL8933	Swynys prospect	Ag	151.50148	-29.47287	pit(s)	2	330	60	Pits
EL8933	Tangoa prospect	Pb,Zn	151.4925	-29.5224	pit(s)	1		185	Shallow pits or scrapings. Very elongate in a north/south direction.

Lode_EL	Occurrence Name	Comm	Long	Lat	Oper.	Depth	Dip Dir	Strike	Description
EL8933	Tangoa West	Zn	151.48236	-29.51037	u/g mine	10			Open cut(s), shaft(s), shallow pits or scrapings. No obvious structures, gives the impression that it is a steeply plunging pipe.
EL8933	Tin 106	Sn	151.48984	-29.48627	unk	0.5			Dredging or sluicing.
EL8933	Webbs Consols #1 shaft	Pb, Ag, Zn, Au	151.47808	-29.49336	u/g mine	300	100	190	Underground workings, shaft(s), shallow pits or scrapings. Pipe like structure in a 010°-tending shear with a 70°-75° plunge in this shear to SE.
EL8933	Webbs Consols #3 shaft	Pb, Ag, Zn	151.47774	-29.49543	u/g mine	30			Underground workings, shaft(s), shallow pits or scrapings.
EL8933	Webbs Consols #4 shaft	Pb, Ag, Zn, Au	151.47811	-29.49814	u/g mine	22			Underground workings, shaft(s), shallow pits or scrapings. Much ore appears to be disseminated within granite; may become pipe-like with depth.
EL8933	Webbs Consols #6 shaft	Pb,Ag	151.47905	-29.49873	u/g mine	10		160	Open cut(s), shaft(s). Small number of pits and shaft on altered granite with open quartz veins oriented 160.
EL8933	Webbs Consols #7 shaft	Pb,Ag	151.48057	-29.4988	u/g mine	10		70	Open cut(s), shaft(s), shallow pits or scrapings. General strike of 070 but dip cannot be determined.
EL8933	Webbs Consols #8 shaft	Pb,Ag	151.47796	-29.49999	u/g mine	13			Shaft(s). Orientation of mineralisation could not be determined although quartz vein material is present on dumps.
EL8933	Wellingrove central	Cu	151.4939	-29.50581	pit(s)	5		195	Open cut(s), shaft(s), shallow pits or scrapings. Few sratchings and open cuts and several pits along old track, no discernable orientation.
EL8933	Wellingrove north	Pb,Ag	151.49473	-29.50393	u/g mine	10	95	185	Open cut(s), shaft(s), shallow pits or scrapings. Multiple veins striking 005 and dipping 65 to the east; numerous pits, underlay shaft etc.
EL8933	Wellingrove prospect 1	Pb,Ag	151.49864	-29.49052	u/g mine				Shaft(s), shallow pits or scrapings.
EL8933	Wellingrove prospect 2	Ag,Pb	151.49257	-29.48297	unknown	2			
EL8933	Wellingrove south	Pb,Ag,Zn	151.49218	-29.50931	o/c & u/g mine	10		36	Underground workings, open cut(s), shaft(s), shallow pits or scrapings. Workings elongate at 025 along multiple quartz and sulphide veins.
EL8980	Brown's Reef	Au	151.44232	-30.64967	u/g mine	60		360	Shafts

Lode_EL	Occurrence Name	Comm	Long	Lat	Oper.	Depth	Dip Dir	Strike	Description
EL8980	Cherry Tree Hill	Au	151.47166	-30.68159	pit(s)				Shallow pits
EL8980	Digger's Ridge	Au	151.49753	-30.6016	u/g mine				Underground, shafts, adits
EL8980	Frazers Find	Au	151.43059	-30.61335	u/g mine	20			Underground, shafts, shallow pits
EL8980	Goldsworth Gully	Alluv	151.43085	-30.59106	alluv	3			dredging and/or slucing
EL8980	Goldsworth Mine	Au	151.43825	-30.58177	u/g mine	87.2		45	Underground, shafts,
EL8980	Gracie, Little Graci	Au	151.41295	-30.62694	u/g mine	60	293	23	Underground, shafts, shallow pits,
EL8980	Gwydir River Gold	Alluv	151.43308	-30.48445	u/g mine	10			Open cut, dredging and/or sluicing, shafts, shallow pits
EL8980	Hudsons prospect	Au	151.41321	-30.61774	u/g mine				Underground, shafts
EL8980	McCrossin's	Au	151.43258	-30.626	u/g mine			30	Underground, shafts, shallow pits,
EL8980	Jackson's Gully	Au	151.46364	-30.59488	u/g mine				Underground, dredging and/or sluicing, shafts, shallow pits
EL8980	Khatoun prospect	Mn	151.40745	-30.62533	pit(s)			355	Shallow pits
EL8980	Landrigan Hill	Au	151.4241	-30.60217	u/g mine				Underground, adits
EL8980	Manuka Prospect	Pb	151.40805	-30.65872	unk				
EL8980	Manuka Farm	Hg	151.40886	-30.65377	unk				
EL8980	Martin's Shaft	Au	151.41077	-30.63163	u/g mine	30	340	70	Underground, shafts
EL8980	Mount Harris	Au	151.46804	-30.5805	u/g mine				Dredging and/or sluicing, shafts, shallow pits
EL8980	Mount Monopoly	Au	151.45178	-30.55387	u/g mine	30			Underground, shafts, adits, shallow pits
EL8980	Mount Welsh	Au	151.47552	-30.60856	u/g mine	33			Underground, shafts
EL8980	Mt Brisbane	Au	151.50439	-30.58995	u/g mine	6			Underground workings, shafts and adits
EL8980	Muddy Gully	Alluv	151.43261	-30.51422	alluv				Dredging and/or sluicing
EL8980	O'Sullivans shaft	Au	151.53343	-30.56574	u/g mine				Underground workings, and shafts,
EL8980	Reedy Creek	Alluv	151.50503	-30.54845	alluv				Dredging and/or sluicing
EL8980	Rocky River	Alluv	151.46301	-30.56871	alluv				Dredging and/or sluicing, adits, shallow pits,
EL8980	Suey's Claim	Au	151.42742	-30.62865	u/g mine	30	310	40	Underground, shafts
EL8980	Vickers prospect	Au	151.41601	-30.61502	u/g mine	16			Underground, shafts

Lode_EL	Occurrence Name	Comm	Long	Lat	Oper.	Depth	Dip Dir	Strike	Description
EL8980	Wilsons Creek Shaft	Au	151.41019	-30.64296	u/g mine				Underground, shafts
EL8980		Au	151.43962	-30.51186	u/g mine				Underground
EL8980		Au	151.42278	-30.60621	u/g mine	2.5			Dredging and/or sluicing, adits
EL8980		Au	151.43219	-30.63718	unk				
EL8980		Au	151.42975	-30.64645	unk				
EL9003	Ambrose Gold Prospect	Au	151.09266	-31.161	u/g mine	2.5	295	25	Underground workings, shafts, adits and shallow workings
EL9003	Charmant Vue Manganese	Mn	151.16543	-31.24956	u/g mine	2			Open cut, and shafts
EL9003	Cockburn River Prospect	Au	151.12831	-31.05508	u/g mine	15		220	Underground workings, open cut and shafts
EL9003	Cooee Creek Mn	Mn	151.26051	-31.27524	pit(s)			177	
EL9003	Edwards prospect	Cu	151.11621	-31.19021	u/g mine	6			Underground workings, and shafts
EL9003	Fischer's Copper Mine	Cu	151.1325	-31.21571	u/g mine	40	242	332	Underground, shafts
EL9003	Givneys Reef	Au	151.16181	-31.05646	u/g mine	2		142	Underground workings, and shafts
EL9003	Gordons Shaft	Au	151.15628	-31.07172	u/g mine	10			Underground workings, and shafts
EL9003	Grahams Manganese Prospect	Mn	151.11895	-31.15778	u/g mine	2	265	355	Underground workings, open cut, shafts, adits and shallow workings
EL9003	Herdens Copper Prospect	Cu	151.1214	-31.193	u/g mine	10			Underground workings, and shafts
EL9003	Jersey Gully Prospect	Au	151.14425	-31.04358	pit(s)	2		22	Open cut and shallow pits
EL9003	Little Oaky Creek Prospect	Au	151.14894	-31.07161	u/g mine		118	208	Underground workings, and shafts
EL9003	Mt Pleasant Copper	Cu	151.22643	-31.30003	u/g mine	15	260	350	Underground, shafts, shallow pits
EL9003	Mulla Creek Copper Mine	Cu	151.14929	-31.16183	u/g mine	30			Adits
EL9003	New Years Gift	Au	151.11551	-31.06662	u/g mine	15			Underground workings, shafts and adits
EL9003	Oakview Manganese Prospect	Mn	151.12451	-31.0884	pit(s)	1.5			
EL9003	Oakview North Manganese	Mn	151.12565	-31.08391	unk				
EL9003	Oaky Creek prospect	Mn	151.22296	-31.31712	pit(s)	1.5	273	183	Shallow pits
EL9003	Rackhams Reward Mine	Au	151.14395	-31.05891	u/g mine	8	20	110	Underground workings, shafts and adits

Lode_EL	Occurrence Name	Comm	Long	Lat	Oper.	Depth	Dip Dir	Strike	Description
EL9003	Railway prospect	Au	151.15007	-31.04583	unk	1.5			Open cut
EL9003	Rasussens prospect	Cu	151.11829	-31.19115	u/g mine	10			Underground workings, and shafts
EL9003	Red Gully Mine	Mn	151.09297	-31.19799	pit(s)	4			Open cut and shallow pits
EL9003	Spring Creek Alluvials	Alluv	151.10807	-31.07192	u/g mine				Dredging and/or sluicing, shafts and shallow pits
EL9003	Stannings prospect	Au	151.13665	-31.057	u/g mine	17			Underground workings, and shafts
EL9003	Stronghurst Manganese	Mn	151.15612	-31.24221	u/g mine				Adits
EL9003	Thompsons prospect	Au	151.13369	-31.04794	u/g mine	4		172	Shafts and shallow pits
EL9003	Trough Gully Copper Mine	Cu	151.11749	-31.17851	u/g mine	30	112	202	Underground workings, open cut, shafts and adits
EL9003	Weavers Reef	Au	151.11222	-31.07379	u/g mine	11		122	Underground workings, shafts and shallow pits
EL9003	Woolomin Mine	Cu	151.14111	-31.25823	u/g mine	43		187	Underground workings, shafts and adits
EL9003	Kasey prospect	Cu	151.15514	-31.21109	Nil				Exploration target based on magnetics and Cu anomalies in stream sediments.
EL9004	Boorolong Mo Mine	Mo	151.44320	-30.27345	u/g mine	33			Underground, Open cut, shafts, shallow pits
EL9004	Elsinore Cu 2	Cu	151.35829	-30.28504	pit(s)	1.5	200	110	Shallow pits
EL9004	Elsinore Cu 1	Cu	151.36820	-30.28327	pit(s)	0.5	180	90	Shallow pits
EL9004	Laura Creek Mo	Mo	151.29959	-30.25271	pit(s)				Shallow pits
EL9004	Laura Creek Mo	Mo	151.31079	-30.26639	unk				
EL9084	Black Mountain Reef	Au	150.66878	-30.47410	u/g mine	30	235	325	Underground, shafts, shallow pits,
EL9084	Black Mountain Reef	Au	150.67028	-30.47666	u/g mine	30		140	Underground, shafts, shallow pits,
EL9084	Black Prince Reef	Au	150.65214	-30.45152	u/g mine	7	242	332	Underground, shafts, shallow pits,
EL9084	Dyson's Reef	Au	150.66205	-30.49419	u/g mine	40		130	Underground, Open cut, shafts, shallow pits,
EL9084	Italian Gully	Au	150.66199	-30.4968	pit(s)	3		60	Shallow pits
EL9084	Opossum Gully	Au	150.65810	-30.4851	pit(s)	2		150	Shallow pits
EL9084	Pioneer Reef	Au	150.66307	-30.49502	u/g mine	47	230	320	Underground, shafts, shallow pits
EL9084	Readings Reef	Au	150.64936	-30.43704	u/g mine	43	245	335	Underground, shafts, shallow pits
EL9084	Readings Reef South	Au	150.6508	-30.44203	pit(s)	1		155	adits, shallow pits

Lode_EL	Occurrence Name	Comm	Long	Lat	Oper.	Depth	Dip Dir	Strike	Description
EL9084	Shamrock Reef	Au	150.66062	-30.46701	u/g mine	3		120	Underground, shafts, shallow pits,
EL9084	Teatree Creek Deep Lead	Alluv	150.65536	-30.50832	u/g mine				Underground, open cut, dredging and/or sluicing, shafts, shallow pits
EL9084	Teatree Creek Gold	Alluv	150.65679	-30.49626	alluv	3			Shallow pits
EL9084		Au	150.68212	-30.4692	u/g mine	10		145	Underground, shafts, shallow pits
EL9084		Au	150.66884	-30.47131	pit(s)	1.5			Shallow pits
EL9084		Au	150.65738	-30.48914	u/g mine	7			Underground, shafts, shallow pits
EL9084		Au	150.66088	-30.49065	pit(s)	2		75	Open cut, shallow pits
EL9084		Au	150.65998	-30.49803	pit(s)	2		150	Shallow pits
EL9084		Au	150.66371	-30.50739	u/g mine			115	Underground, shafts, adits, etc
EL9084		Alluv	150.64322	-30.51929	unk				Open cut
EL9085	Old Willaroi Creek Alluvials	Alluv	150.31112	-30.41229	pit(s)				Shallow pits
EL9085		Au	150.39333	-30.45518	pit(s)				Pit
EL9085		Alluv	150.32032	-30.46001	u/g mine				Shaft
EL9085		Alluv	150.32319	-30.43121	alluv				Small alluvial workings
EL9085		Alluv	150.33376	-30.50177	alluv				
EL9085		Mte	150.32567	-30.45471	u/g mine				Shaft
EL9087	Bannaweera 1	Au	151.39232	-30.61844	Nil				Exploration target based on geochemistry & geological mapping
EL9087	Bannaweera 2	Au	151.39073	-30.60254	Nil				Exploration target based on geochemistry & geological mapping

Appendix 5 - Glossary of Technical Terms

Aeromagnetic survey	An airborne geophysical survey to detect variations in the Earth's magnetic field due to the presence (or absence) of magnetic rocks or minerals.
Ag	Chemical symbol for silver
Alluvium	A general term for unconsolidated material deposited during comparatively recent geological time by running water or wind.
Alteration	A chemical change to original rock minerals.
Alteration halo	A zone of a similar style of alteration around mineralisation
Andesitic	An intermediate variety of igneous rock.
Anomalous	Having statistically significantly higher or lower values than the norm.
Argillic	Refers to alteration of original rock to clay minerals.
As	Chemical symbol for arsenic.
Assay	A chemical method to determine the metal content of a sample.
Au	Chemical symbol for gold.
Batholith	A large igneous intrusion, usually >100sq km in area.
Bornite	A copper ore mineral composed of copper, iron and sulphur.
Breccia	A rock type composed mainly of broken angular fragments.
Chalcocite	A copper ore mineral composed of copper and sulphur.
Chalcopyrite	A copper ore mineral composed of copper, iron and sulphur.
Channel sample	A technique of sampling rock outcrops for quantitative assaying whereby a representative sample is collected over a specific length.
Crust	Outermost layer of the earth.
Crustal plate	Large, rigid segment of the earth's crust.
Cu	Chemical symbol for copper.
Deformation	Process by which rocks are folded and faulted.
Diamond drilling	A drilling technique using diamond tipped drill bits to extract cylindrical rock core for analysis.
Diatreme	A vertical, pipe or funnel shaped body of intrusive breccia.
Diorite	A dark coloured variety of intermediate intrusive rock.
Dyke	A narrow, generally tabular, igneous intrusion that cuts across geological strata.
EM	Electromagnetics, an electrical geophysical surveying method
Epithermal	Refers to geologic processes taking place at low temperature and pressure near the Earth's surface.

Fe	Chemical symbol for iron.
Feldspar	Variety of common rock forming minerals containing silica, aluminium and variable amounts of calcium, potassium and sodium.
Felsic	An intermediate or silicic igneous rock containing abundant feldspar +/- quartz.
Ferro-magnesian	Pertaining to minerals that have high contents of iron and magnesium.
Gabbro	A coarse grained intrusive rock having high contents of ferro-magnesian minerals.
Geochemical sample	A sample of rock, soil or sediments collected for analysis to determine metal or mineral content.
Geophysical survey	Methods to measure the physical properties of the earth, such as electrical, magnetic or density.
Grade	Quantity of gold or other metal per unit weight of the host rock or sample.
Granite	A variety of coarse grained intrusive rock with high contents of feldspar and quartz
Granodiorite	A variety of coarse grained intrusive rock with high contents of feldspar and quartz and lesser ferro-magnesian minerals.
GSNSW	Geological Survey of New South Wales
g/t	Grams per tonne; equivalent to parts per million (ppm).
Hematite	Iron oxide mineral with general formula of Fe_2O_3
Hydrothermal	Refers to geologic processes related to hot fluids.
Igneous	Rock types formed from the cooling and solidification of molten magma.
Intermediate	A type of igneous rock containing 45-55% silica (SiO_2) and less than 10% free quartz.
Intrusive	An igneous rock solidified from magma beneath the earth's surface.
Intrusive complex	An area containing a number of intrusive bodies.
IP	Induced Polarisation, an electrical geophysical surveying technique.
Lava	A volcanic rock solidified from magma extruded onto the earth's surface.
Limestone	A sedimentary rock composed mainly of calcium carbonate.
Limonite	A variety of hydrated iron oxide formed during weathering.
Lode	Deposit of metalliferous ore that fills or is embedded in a fissure in a rock formation or between rock layers
Ma	Symbol for millions of years before the present time.
Mafic	Referring to igneous rocks composed dominantly of ferro-magnesian minerals and minor feldspar.
Magma	Molten rock composed of mineral crystals and dissolved gases.
Magnetic	Refers to rocks or minerals with magnetic properties.
Magnetite	A magnetic iron oxide mineral.
Mesothermal	Refers to geologic processes taking place at moderate temperatures and depths, commonly 350m-1500m below surface.

Metamorphism	Processes by which rock forming minerals are changed by heat and/or pressure.
Mineral Resource	A concentration or occurrence in the Earth's crust of material of intrinsic value in such form, quality and quantity that there are reasonable prospects for eventual economic extraction.
Mineralisation	Concentration of metals or other minerals of value within a body of rock.
Miocene	A geological time period ranging from 23.3 to 5.2 million years ago.
MMI	Mobile Metal Ion geochemistry technique designed to detect hidden mineralisation through selective analysis of metal ions that travel upward from mineralisation to unconsolidated surface materials such soil.
Mo	The chemical symbol for molybdenum.
Molybdenite	The main molybdenum ore mineral, composed of molybdenum and sulphur.
Ni	Chemical symbol for nickel.
Outcrop	Exposure of bedrock at the surface projecting through soil cover.
Pb	Chemical symbol for lead.
Phenocryst	A relatively large mineral crystal set in a finer grained groundmass.
Pliocene	A geological time period ranging from 5.2 to 2.6 million years ago
Porphyry	Refers to the texture of igneous rocks containing visible crystals in a fine-grained groundmass.
Porphyry copper	Refers to a large, generally low grade copper deposit related to intrusive rocks.
ppm	Parts per million; terminology used for geochemical sampling; equivalent to grams per tonne (g/t).
Prospect	An area within a mining tenement that has indications of the occurrence of mineralisation, upon which exploration efforts are concentrated.
Propylitic	A type of rock alteration commonly associated with mineral deposits.
Pyrite	A common iron mineral composed of iron and sulphur.
Pyroclastic	A type of fragmental volcanic rock formed by violent volcanic eruptions.
Quartz	A common rock forming mineral composed of silica and oxygen.
Quaternary	A geological time period ranging from 2.6 million years ago to present.
Resistivity	A geophysical surveying technique to compare bulk rock electrical properties.
Rock chip	A technique of sampling rock outcrops for quantitative assaying.
RTP	Rotated to pole – a method of processing magnetics data to show the response that would be generated if the bodies were located at the magnetics pole.
Shear	A narrow, linear zone of rock deformation or faulting.
Silicified	Alteration of a rock to silica.
Skarn	A rock type formed by alteration of limestone by heat from an intrusive body.
Sphalerite	A zinc ore mineral composed of zinc, iron and sulphur

Stock	A relatively small intrusive body with generally circular or elliptical outline.
Stockwork	A closely spaced network of intersecting veins.
Subduction zone	The edge of an oceanic crustal plate where the denser oceanic crust is forced below lighter continental crust.
Sulphide	A type of mineral composed of a metal or metals combined with sulphur.
Tectonic	A term relating to major structures of the earth.
Tenement	Area of land defined by a Government authority over which the holder has the sole rights to mineral exploration or mining activities.
Ultramafic	Referring to igneous rocks composed dominantly of ferro-magnesan minerals.
TMI	Total Magnetic Intensity
Vein	A narrow, tabular or sheet-like body of rock or minerals.
Weathering	Set of processes at or near the surface whereby bedrock is broken up or decayed by physical or chemical processes.
Zn	Chemical symbol for zinc

Appendix 6 - JORC Code, 2012 Edition – Table 1

SECTION 1 - SAMPLING TECHNIQUES AND DATA

(Criteria in this section apply to all succeeding sections.)

Criteria	JORC Code explanation	Commentary
Sampling techniques	• *Nature and quality of sampling (eg cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling.* • *Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.* • *Aspects of the determination of mineralisation that are Material to the Public Report.* • *In cases where 'industry standard' work has been done this would be relatively simple (eg 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (eg submarine nodules) may warrant disclosure of detailed information.*	**Regional Data** • All data obtained from historical exploration programs by other companies, downloaded from NSW Minview website. • Regional geology data downloaded from NSW Minview website. • Stream sediment sample data restricted to -80# size fraction. **Webbs Consols Project** • All sample data obtained from historical exploration reports by other companies. • Stream sediment sample data downloaded from NSW DIGS website, restricted to -80# size fraction. • Soil sampling data restricted to Silver Mines sampling, downloaded from NSW DIGS website. CRA soil sampling not in a digital format. **Uralla Project, Uralla West Project** • All sample data obtained from historical exploration reports by other companies. • Half NQ / BQ diamond drill core sampled over variable lengths as determined by alteration and lithology. • Core cut along consistent orientation line where oriented core available **Fender Project**

Criteria	JORC Code explanation	Commentary
		• All sample data obtained from historical exploration reports by other companies. • Sampling methods largely unknown / not recorded. **Elsinore Project, Tea Tree Project, Thor Project** • All sample data obtained from historical exploration reports by other companies. • Sampling methods largely unknown / not recorded. **Competent Person's comments** • The lack of sampling and assaying information is not considered material as the results are only taken to be indicative of the tenor of mineralisation • Future exploration should aim to verify historical drilling data if it is to be used for Mineral Resource Estimations
Drilling techniques	• *Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (eg core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc).*	**Webbs Consols Project** • Diamond core drilling by CRA – core size NQ (47.6mm diameter) • Percussion drilling by CRA – drillhole diameter not recorded • RC drilling by Silver Mines – drillhole diameter 120mm (4.75") • Core orientation not recorded. **Uralla Project** • Uralla Gold – pre-collar open hole hammer followed by aircore (diameter not recorded) • Sovereign Gold: HQ/NQ/BQ Diamond core (63.5mm/47.6mm/37.5mm diameter) • No core orientation • Reverse Circulation drilling (diameter not recorded) **Fender Project**

Criteria	JORC Code explanation	Commentary
		• Percussion drilling at Fischers Mine (diameter not recorded). **Elsinore Project** • No drilling reported. **Tea Tree Project** • Pinnacle Gold - RC drilling at Shamrock prospect (diameter not recorded). **Thor Project** • No drilling reported. **Uralla West Project** • Sovereign Gold / Sugec Resources: • HQ/ BQ Diamond core (63.5mm/37.5mm diameter) • No core orientation **Competent Person's comments** • The lack of drilling information is not considered material as the results are only taken to be indicative of the tenor of mineralisation • Future exploration should aim to verify historical drilling data if it is to be used for Mineral Resource Estimations
Drill sample recovery	• *Method of recording and assessing core and chip sample recoveries and results assessed.* • *Measures taken to maximise sample recovery and*	**Webbs Consols Project** • Sample recovery:

Criteria	JORC Code explanation	Commentary
	ensure representative nature of the samples. • *Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.*	○ CRA diamond drillhole core recovery recorded for each drill run on hand-written drill logs. ○ CRA percussion drillhole recovery not recorded ○ Silver Mines RC drillholes recovery not recorded ○ Measures taken to maximise sample recovery not recorded • Lithological logs: ○ CRA drillhole logging on hand-written drill log sheets ○ Silver Mines logging presented as summary logs • Relationship between sample recovery and grade not determined due to lack of data **Uralla Project** • Sovereign Gold drill core logs not reported except for drillholes FF-ZK007 and FF-ZK0802. • Core recovery not recorded except for reported overall core recovery >90% for drillholes FF-ZK007 and FF-ZK0802. No relationship observed between core recovery and mineralisation grade. • EL6483 2012 Annual Report states "low or zero core recovery of the main gold lode in 8 of the diamond drillholes" at Fraser's Find prospect (Leu, et al., 2012) **Uralla West Project** • Core recovery data not reported **Competent Person's comments** • The lack of drilling recovery information is not considered material as the results are only taken to be indicative of the tenor of mineralisation • Future exploration should aim to verify historical drilling data if it is to be used for Mineral Resource Estimations
Logging	• *Whether core and chip samples have been geologically and geotechnically logged to a level of*	**Webbs Consols Project**

Criteria	JORC Code explanation	Commentary
	detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies. • *Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.* • *The total length and percentage of the relevant intersections logged.*	• CRA percussion drilling - geological logging recorded on hand-written log sheets for entire drillhole lengths. • CRA diamond drilling – geological logging recorded on hand-written log sheets for entire drillhole lengths. • Silver Mines RC drilling – composite intervals based on lithology reported as tables in annual reports and in text files using the NSW drilling data template. • Qualitative logging of lithologies, alteration and sulphide contents recorded. • Level of detail insufficient for Mineral Resource Estimation without infill drilling or twinned drillholes. **Uralla Project** • Lack of lithological logging - insufficient detail to support Mineral Resource estimation **Fender Project** • Lithological data for percussion drilling at Fischers Mine recorded on hand-drawn drilling cross-sections. **Uralla West Project** • Lithological logs not reported **Competent Person's comments** • The lack of drilling lithological information is not considered material as the results are only taken to be indicative of the tenor of mineralisation • Future exploration should aim to verify historical drilling data if it is to be used for Mineral Resource Estimations

Criteria	JORC Code explanation	Commentary
Sub-sampling techniques and sample preparation	• *If core, whether cut or sawn and whether quarter, half or all core taken.* • *If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.* • *For all sample types, the nature, quality and appropriateness of the sample preparation technique.* • *Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.* • *Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results for field duplicate/second-half sampling.* • *Whether sample sizes are appropriate to the grain size of the material being sampled.*	**Webbs Consols Project** • Sampling details not recorded. **Uralla Project** • Half core cut with diamond saw, along pre-marked orientation lines. Remaining core retained. • Sample size is appropriate for the grain size of the material being sampled • Sample preparation only reported for drillholes FF-ZK007 and FF-ZK0802 in Sovereign Gold's ASX announcement dated 17/11/2015. • Samples crushed to 70% passing 6mm then riffle splitting and pulverizing to 85% passing 75 micron. • Sampling details for other types of sample not recorded. **Fender Project** • Sampling methods not recorded. **Uralla West Project** • Standard laboratory lab sample preparation, samples pulverised to 85% passing 75 microns or better **Competent Person's comments** • The lack of drilling sampling and QAQC information is not considered material as the results are only taken to be indicative of the tenor of mineralisation • Future exploration should aim to verify historical drilling data if it is to be used for Mineral Resource Estimations

Criteria	JORC Code explanation	Commentary

Quality of assay data and laboratory tests	• *The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.*
	• *For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.*
	• *Nature of quality control procedures adopted (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie lack of bias) and precision have been established.*
		Webbs Consols Project
		• CRA drilling – assay data recorded on hand-written drill logs. ALS Laboratory used for Tangoa prospect drillholes, not recorded for Webbs Consols or Wellingrove drillholes; assaying methods not recorded.
		• Quality control methods not recorded.
		• Silver Mines drilling – assay laboratory ALS Brisbane. Methods: Au-TL43 for Au; ICP43 for Ag, As, Bi, Cu, Fe, Pb, Sb, Zn; ME-XRF05 for Sn; OG46 for high grade samples.
		• Quality control methods not recorded.
		
		Uralla Project
		• Drill core samples assayed for gold using 30g Fire Assay with AAS finish. Multi-element scans assayed by ICP-AES method (ALS ME-MS61)
		• Quality control methods not recorded, apart from ALS routine QA/QC.
		
		Fender Project
		• Sample preparation and assaying methods not recorded.
		• Copper grades recorded on hand-written drilling cross-sections.
		
		Uralla West Project
		• Assay methods:
		  ○ ALS – 4 acid digest with determination by ICP-AES & ICP-MS; Au by fire assay with AAS finish using 30g sample
		  ○ Sovereign Gold –XRF analysis using Innov-X portable XRF analyser
		
		Competent Person's comments
		• Reported assaying techniques are considered appropriate for the mineralisation

Criteria	JORC Code explanation	Commentary
		• The lack of drilling assaying information is not considered material as the results are only taken to be indicative of the tenor of mineralisation • Future exploration should aim to verify historical drilling data if it is to be used for Mineral Resource Estimations

Verification of sampling and assaying	• *The verification of significant intersections by either independent or alternative company personnel.*
	• *The use of twinned holes.*
	• *Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.*
	• *Discuss any adjustment to assay data.*
		Webbs Consols Project
		• CRA drilling:
		  ○ Verification of significant intersections not recorded.
		  ○ No twinned drillholes.
		  ○ Data entered into hand-written drill logs. Not transferred into digital database.
		• Silver Mines drilling:
		  ○ Verification of significant intersections not recorded.
		  ○ No twinned drillholes.
		  ○ Data entered into Excel spreadsheets and transferred to NSW drilling data templates in text format.
		
		Uralla Project
		• Verification of significant intersections not recorded.
		• Twinned drillholes – SGRDD014 & SGRRC018
		• Data entry procedures not documented – transferred to NSW drilling data templates in text format.
		
		Fender Project
		• No verification of percussion drilling intersections at Fischer's Mine undertaken.
		• No twinned drillholes.
		• Data entry procedures not documented.

Criteria	JORC Code explanation	Commentary
		Uralla West Project • No twinned drillholes • No verification of significant intersections • Data entry procedures not documented **Competent Person's comments** • The lack of drilling verification information is not considered material as the results are only taken to be indicative of the tenor of mineralisation • Future exploration should aim to verify historical drilling data if it is to be used for Mineral Resource Estimations

Location of data points	• *Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.*
	• *Specification of the grid system used.*
	• *Quality and adequacy of topographic control.*
		Webbs Consols Project
		• CRA drilling:
		  ○ Method of surveying of drillhole collars not recorded.
		  ○ Collar positions presented as plans using local grid.
		  ○ Method for transfer of collar data into NSW database not recorded.
		  ○ No CRA drillhole collars located during the site visit.
		• Silver Mines drilling:
		  ○ Collars surveyed with hand-held GPS, accuracy 5m. Grid system MGA94, Zone 56.
		  ○ Downhole surveys at 5m and end of hole for 2006 drilling, at 25m intervals for 2008 drilling. Survey instrument not recorded.
		
		Uralla Project
		• Collars surveyed with hand-held GPS, accuracy 5m. Grid system MGA94, Zone 56
		
		Fender Project

Criteria	JORC Code explanation	Commentary
		• Collar locations for percussion drilling at Fischer's Mine digitized from georeferenced plan. Method of surveying of collar locations not recorded. **Uralla West Project** • Drillhole collars located using hand-held GPS units (accuracy ±5m) **Competent Person's comments** • The lack of drillhole surveying information is not considered material as the results are only taken to be indicative of the tenor of mineralisation • Future exploration should aim to verify historical drilling data if it is to be used for Mineral Resource Estimations
Data spacing and distribution	• *Data spacing for reporting of Exploration Results.* • *Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.* • *Whether sample compositing has been applied.*	**Webbs Consols Project** • Drillholes spaced at approximately 200m, not sufficient to establish Mineral Resources. • Sample compositing using weighted average grades applied in determining intervals of significant mineralisation. **Uralla Project** • Drillhole spacing at Martin's Shaft prospect: 44 drillholes within area of 220m x 150m, maximum depth 247m, sufficient to establish Mineral Resources if geological data can be found. • Drillhole spacing at other prospects not sufficient to establish Mineral Resources. • Sample compositing applied in determining intervals of significant mineralisation using weighted average grades.

Criteria	JORC Code explanation	Commentary
		Fender Project • Percussion drilling at Fischer's Mine – 11 drillholes covering area of ~280m x ~120m, maximum depth ~50m, not sufficient to establish Mineral Resources. **Uralla West Project** • Close-spaced short drillholes • Sample compositing not applied **Competent Person's comments** • Drillhole spacing at most prospects is not considered material as the results are only taken to be indicative of the tenor of mineralisation • Future exploration should aim to verify and infill historical drilling data if it is to be used for Mineral Resource Estimations
Orientation of data in relation to geological structure	• *Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.* • *If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.*	**Webbs Consols Project** • CRA drilling - Drillholes oriented at right angles to strike of the main controlling structures. • Orientation not likely to have led to sampling bias. • Silver Mines drilling – drillholes oriented at variable directions to test for extensions of the Webbs Consols mineralisation **Uralla Project** • Orientation of drillholes primarily at right angles relative to the strike of mineralisation and structures. • Orientation not likely to have led to sampling bias except for drillhole SGRDD032 at Martin's Shaft, which drilled down the dip of the mineralized zone.

Criteria	JORC Code explanation	Commentary
		Fender Project • Percussion drilling at Fischer's Copper prospect designed to test extensions of mineralisation exposed in underground workings. • Orientation not likely to have led to sampling bias. **Uralla West Project** • Orientation of drillholes relative to mineralisation not understood **Competent Person's comments** • The lack of drilling orientation information is not considered material as the results are only taken to be indicative of the tenor of mineralisation • Future exploration should aim to verify historical drilling data if it is to be used for Mineral Resource Estimations
Sample security	• *The measures taken to ensure sample security.*	**Webbs Consols Project** • Sample security measures not recorded. **Uralla Project** • Sample security measures not recorded. **Fender Project** • Sample security measures not recorded.

Criteria	JORC Code explanation	Commentary
		Uralla West Project • Sample security measures not recorded. **Competent Person's comments** • The lack of sample security information is not considered material as the results are only taken to be indicative of the tenor of mineralisation.
Audits or reviews	• *The results of any audits or reviews of sampling techniques and data.*	**Webbs Consols Project** • No audits or reviews of sampling techniques undertaken. **Uralla Project** • No audits or reviews of sampling techniques undertaken. **Fender Project** • No audits or reviews of sampling techniques undertaken. **Uralla West Project** • Sample security procedures not documented **Competent Person's comments** • The lack of audits and reviews is not considered material as the results are only taken to be

Criteria	JORC Code explanation	Commentary
		indicative of the tenor of mineralisation

SECTION 2 - REPORTING OF EXPLORATION RESULTS

(Criteria listed in the preceding section also apply to this section.)

<table>
<tr><th>Criteria</th><th>JORC Code explanation</th><th>Commentary</th></tr>
<tr><td>Mineral tenement and land tenure status</td><td>Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.
The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.</td><td>Seven granted Exploration Licences, all held 100% by Lode Resources Limited with no impediments to exploration.
Native Title Claim application NC2011/006 in the name of the Gomeroi People covers the seven granted Exploration Licences.
<table>
<tr><th>Tenement</th><th>Name</th><th>Status</th><th>Grant Date</th><th>Expiry Date</th></tr>
<tr><td>EL8933</td><td>Webbs Consols</td><td>Granted</td><td>16/01/2020</td><td>16/01/2023</td></tr>
<tr><td>EL8980</td><td>Uralla</td><td>Granted</td><td>14/05/2020</td><td>14/05/2023</td></tr>
<tr><td>EL9003</td><td>Fender</td><td>Granted</td><td>12/10/2020</td><td>12/10/2023</td></tr>
<tr><td>EL9004</td><td>Elsinore</td><td>Granted</td><td>12/10/2020</td><td>12/10/2023</td></tr>
<tr><td>EL9084</td><td>Tea Tree</td><td>Granted</td><td>11/03/2021</td><td>11/03/2024</td></tr>
<tr><td>EL9085</td><td>Thor</td><td>Granted</td><td>11/03/2021</td><td>11/03/2024</td></tr>
<tr><td>EL9087</td><td>Uralla West</td><td>Granted</td><td>12/03/2021</td><td>11/03/2024</td></tr>
</table></td></tr>
<tr><td>Exploration done by other parties</td><td>Acknowledgment and appraisal of exploration by other parties.</td><td>Webbs Consols Project
Considerable historical exploration by other companies, in particular CRA Exploration and Silver Mines Limited, undertaken over the Webbs Consols prospect, including:
Geological mapping
Stream sediment, rock chip & soil sampling
Ground magnetics & IP geophysics surveys
Open hole percussion and diamond drilling
Downhole IP & EM</td></tr>
</table>

Criteria	JORC Code explanation	Commentary

		Uralla Project
		• Considerable historical exploration by other companies, in particular CRA Exploration, Cyprus Gold and Sovereign Gold, undertaken over the Uralla prospects, including:
		  • Geological mapping
		  • Stream sediment, rock chip & soil sampling
		  • Costeaning
		  • Aircore, reverse circulation and diamond drilling over several prospects
		
		Fender Project
		• Historical exploration conducted by several companies, in particular Fischers Copper Mines, Electrolytic Zinc, Malachite Resources, Auzex Resources, Peel Exploration and IRGS Northern Gold, including:
		  • Stream sediment, BLEG, soil & rock chip sampling
		  • Magnetic susceptibility readings
		  • Percussion drilling at Fischers Copper Mine
		
		Elsinore Project
		• Limited exploration over the area of EL9004, mainly by Sovereign Gold / Sugec Resources:
		  • Grid soil sampling
		  • IP survey.
		
		Tea Tree Project
		• Limited historical exploration over the area of EL9084, mainly by Pinnacles Gold:
		  • Geochemical sampling
		  • 2 RC percussion drillholes totalling 123m
		  • Narrow gold zone detected: 2m @ 6.32 g/t Au in one drillhole not intersected in the second drillhole.

Criteria	JORC Code explanation	Commentary

		Thor Project
		• Limited historical exploration completed over area of EL9085, mainly by Pinnacle Gold:
		  • Prospecting, stream sediment sampling – anomalous zones not repeated in follow-up sampling.
		
		Uralla West Project
		• Limited historical exploration completed over area of EL9087, mainly by Sovereign Gold / Sugec Resources:
		  • Rock chip & grid soil sampling
		  • Airborne magnetics
		  • Follow-up ground magnetics
		  • Diamond drilling: 25 drillholes totalling 1,598m, over a small area
		  • Intersected several zones of low to moderate gold grades.
		
		Competent Person's comments
		• Historical exploration is assumed to have been carried out by competent geoscientists and results taken at face value.

Geology	• *Deposit type, geological setting and style of mineralisation.*	**Regional Geology** • The Lode tenements lie within the southern part of the New England Orogen (NEO), an accretionary regime formed along the eastern edge of Gondwana from the Devonian to Triassic periods. **Webbs Consols Project**

Criteria	JORC Code explanation	Commentary
		• Mineralisation consists of hydrothermal vein-filling systems localised by structures post-dating felsic intrusive bodies. **Uralla Project** • EL8980 area lies within the Central Block of the New England Orogen, where the Uralla Granodiorite, and associated minor plutons and felsic dykes, were emplaced in a tectonic setting that is composed of many elements of Reduced IRGS deposits and are believed to be responsible for auriferous mineralisation systems within the Uralla Goldfield. • Sovereign Gold showed that most of the major hard rock gold mines plot on a magnetic linear feature several kilometres long and that many gold occurrences are linked to highly fractionated minor plutons and quartz-exsolved felsic dykes. **Fender Project** • The oldest rocks within EL9003 are serpentinites of Middle Cambrian to Early Silurian age distributed along the Spring Creek Fault and associated structures as a series of discrete, elongate slivers. Woolomin Group and related units, comprising volcaniclastic lithic sandstone, siltstone and mudstone with subordinate chert, jasper, basalt and diamictite, occur to the west of the Spring Creek Fault. • Sandon Association rocks of Devonian to Early Carboniferous age occur over much of the central portion of the licence area east of the Spring Creek Fault. The Sandon Association strata consist of deep-water origin lithic sandstone, slate, phyllite, chert, jasper, metabasalt, siltstone, mudstone and paraconglomerate. • The Manning Formation is a sequence of Early Permian sediments with some volcanics, occurring as fault slices within the Woolomin Association rocks adjacent to the Spring Creek Fault. • The Late Permian to Early Triassic I-type Moonbi Monzogranite occurs adjacent to the northwestern margin of the tenement. • The Trough Gully and Fisher's Copper workings are interpreted as VHMS style occurrences that are favourably located within and to the west of the Peel-Manning Fault System (locally termed the Spring Creek Fault).

Criteria	JORC Code explanation	Commentary
		Elsinore Project • The Elsinore Prospect comprises Sandon Beds greywacke and psammite with intruded felsic dykes that are crosscut by fracture zones with notable chloritization, sericitization, silicification, pyritization and kaolinization. **Tea Tree Project** • The Teatree Creek Goldfield is located within Noumea Beds meta-sediments locally folded into open and upright structures that are cut by regional north-west trending thrusts and less common north-east or east-west cross faults. • Mineral occurrences are classified as mesothermal vein material derived from the calcareous strata of the Tamworth Belt. Similarities with auriferous vein occurrences developed along the Peel Fault System, and localisation of occurrences along the regional-scale Namoi Fault, adds weight to the mesothermal style of mineralisation. **Thor Project** • EL9085 occurs within Carboniferous sediments and pyroclastics of the Tamworth Belt. • Mineralisation in the area of EL9085 is dominated by alluvial gold occurrences near the western boundary and a single hard rock gold occurrence near the eastern boundary, which the GSNSW Minview mineral occurrence database describes as a structurally controlled low sulphide hydrothermal quartz vein gold occurrence.
Drill hole Information	• *A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes:* ○ *easting and northing of the drill hole collar* ○ *elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar*	**Webbs Consols Project** • Drillhole collar information for Webbs Consols, Wellingrove and Tangoa Prospect includes 13 open hole percussion drillholes (totalling 774m), 8 reverse circulation percussion drillholes (totalling 734m) and 8 diamond drillholes (totalling 1,769.9m) drilled by CRA Exploration and Silver Mines Limted.

Criteria	JORC Code explanation	Commentary
	○ *dip and azimuth of the hole* ○ *down hole length and interception depth* ○ *total drillhole length.* • *If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.*	• Drillhole collar information for the CRA drilling were recorded relative to local grids; the method for transformation into the GSNSW drilling database grid coordinates was not specified.

HOLE ID	East MGA20	North MGA20	RL	Azim	Dip	Length (m)	DRILL_ TYPE	TITLE	COMP ANY	YEAR
78WP1	353802	6734714	786	293	-60	42	OP	EL1079	CRA	1978
78WP2	353848	6734847	783	292	-60	38	OP	EL1079	CRA	1978
78WP3	353891	6735044	781	291	-60	50	OP	EL1079	CRA	1978
78WPC4	353899	6735148	775	283	-53.5	50	OP	EL1079	CRA	1978
78WPC5	353942	6735400	763	286	-60	50	OP	EL1079	CRA	1978
78WPC6	353931	6734772	791	291	-65	237.7	OP/DD	EL1079	CRA	1978
79WC1	352569	6736342	779	292	-60	241.9	DD	EL1079	CRA	1979
DD81W10	353869	6735963	747	291	-45	187	DD	EL1079	CRA	1981
PD80W7	353978	6735493	760	291	-60	83	OP	EL1079	CRA	1980
PD80W8	353807	6735773	754	291	-60	53	OP	EL1079	CRA	1980
PD80W9	353612	6734680	802	291	-60	23	OP	EL1079	CRA	1980
PD80T1	353754	6733155	846	286	-60	83	OP	EL1689	CRA	1980
PD80T2	353702	6733162	847	281	-60	41	OP	EL1689	CRA	1980
PD80T3	353708	6733059	845	283	-60	59	OP	EL1689	CRA	1980
PD80T4	353762	6733307	841	281	-60	107	OP	EL1689	CRA	1980
PD80T5	353746	6733115	846	281	-60	95	OP	EL1689	CRA	1980
DD80T6	353826	6733145	842	281	-53	252	OP/DD	EL1689	CRA	1980
DD81T7	353826	6733145	842	281	-55	3.3	DD	EL1689	CRA	1981
DD81T8	353829	6733196	841	281	-55	217	DD	EL1689	CRA	1981
DD81T9	353817	6733248	841	281	-55	205	DD	EL1689	CRA	1981
DD82T10	353926	6733233	834	281	-62	426	DD	EL1689	CRA	1982
SML001	352483	6736453	762	291	-59	102	RC	EL6239	SML	2006
SML002	352493	6736448	763	292	-60	42	RC	EL6239	SML	2006
SML003	352495	6736447	763	289	-77	42	RC	EL6239	SML	2006
RC004	352417	6736426	769	146	-61	120	RC	EL6239	SML	2008
RC006	352436	6736374	771	030	-68	128	RC	EL6239	SML	2008
RC008	352422	6736233	772	096	-36	90	RC	EL6239	SML	2008
RC009	352402	6736377	768	087	-62	111	RC	EL6239	SML	2008
RC010	352697	6736540	753	314	-46	99	RC	EL6239	SML	2008

Criteria	JORC Code explanation	Commentary

Uralla Project

- Drillhole collar information for the Uralla Gold alluvial prospect recorded as grid references (±50m) in the exploration report. Dip and azimuth not recorded, but believed to be vertical. Transformation method into the GSNSW drilling database grid coordinates not detailed.

HOLE_ID	East	North	RL	Prospect	Dip	Azim	Length	DRILLTYPE	LICENCEE	Year
14	348650	6607865		Uralla	-90	0	36	AC	Uralla Gold	1994
15	348650	6607865		Uralla	-90	0	18	AC	Uralla Gold	1994
SGRDD001	347690	6610141	1013.7	Martins Shaft	-62.1	61.5	13.5	DD	Biacil Holdings	2011
SGRDD002	347698	6610123	1012.7	Martins Shaft	-56.7	342.4	41	DD	Biacil Holdings	2011
SGRDD003	347700	6610112	1013.3	Martins Shaft	-60	340	70.2	DD	Biacil Holdings	2011
SGRDD004	347702	6610097	1013.3	Martins Shaft	-58.4	345.9	76.1	DD	Biacil Holdings	2011
SGRDD005	347716	6610135	1009.9	Martins Shaft	-56.9	340.3	28.5	DD	Biacil Holdings	2011
SGRDD006	347719	6610115	1011.2	Martins Shaft	-60	340	60	DD	Biacil Holdings	2011
SGRDD007	347687	6610095	1014.7	Martins Shaft	-60	340	75.2	DD	Biacil Holdings	2011
SGRDD008	347694	6610081	1014.4	Martins Shaft	-60	340	99.5	DD	Biacil Holdings	2011
SGRDD009	347716	6610075	1012.5	Martins Shaft	-60	340	102	DD	Biacil Holdings	2011
SGRDD010	347691	6610101	1014.3	Martins Shaft	-90	340	133	DD	Biacil Holdings	2011
SGRDD011	347870	6610914	1001.8	Little Gracie	-60	340	65.5	DD	Biacil Holdings	2011
SGRDD012	347853	6610999	1005.2	Gracie	-73	120	100.5	DD	Biacil Holdings	2011
SGRDD013	347891	6610962	997.4	Gracie	-60	300	50	DD	Biacil Holdings	2011
SGRDD014	347688	6610124	1013.6	Martins Shaft	-60	340	45.3	DD	Biacil Holdings	2011

Criteria	JORC Code explanation	Commentary

SGRDD015	347770	6608895	1036.2	Wilsons Creek	-60	285.1	32.1	DD	Biacil Holdings	2011
SGRDD016	347788	6608890	1034.9	Wilsons Creek	-77.5	280.8	71.5	DD	Biacil Holdings	2011
SGRDD017	347782	6608870	1035.7	Wilsons Creek	-69.4	285	75.2	DD	Biacil Holdings	2011
SGRDD018	347774	6608790	1031.5	Wilsons Creek	-60	275	38	DD	Biacil Holdings	2011
SGRDD019	347754	6608727	1029.3	Wilsons Creek	-60	279.7	45	DD	Biacil Holdings	2011
SGRDD020	347773	6608722	1028.3	Wilsons Creek	-60.4	284.5	27	DD	Biacil Holdings	2011
SGRRC001	347707	6610133	1011.3	Martins Shaft	-60.9	341.8	54	RC	Biacil Holdings	2011
SGRRC002	347708	6610124	1011.9	Martins Shaft	-60.5	343.4	57	RC	Biacil Holdings	2011
SGRRC003	347709	6610113	1012.2	Martins Shaft	-59.2	340.1	72	RC	Biacil Holdings	2011
SGRRC004	347687	6610130	1013.5	Martins Shaft	-60.4	339	48	RC	Biacil Holdings	2011
SGRRC005	347688	6610122	1013.7	Martins Shaft	-59.2	337.5	54	RC	Biacil Holdings	2011
SGRRC006	347689	6610112	1014	Martins Shaft	-59.2	343.4	69	RC	Biacil Holdings	2011
SGRRC007	347668	6610127	1015.3	Martins Shaft	-60.3	350.8	45	RC	Biacil Holdings	2011
SGRRC008	347669	6610119	1015.3	Martins Shaft	-60.5	349.3	42	RC	Biacil Holdings	2011
SGRRC009	347672	6610100	1015.9	Martins Shaft	-60.5	342.8	66	RC	Biacil Holdings	2011
SGRRC010	347653	6610097	1017.7	Martins Shaft	-59.6	350.9	66	RC	Biacil Holdings	2011
SGRRC011	347712	6610099	1012.6	Martins Shaft	-59.6	346.1	78	RC	Biacil Holdings	2011
SGRRC012	347726	6610136	1008.8	Martins Shaft	-61.4	349.2	63	RC	Biacil Holdings	2011
SGRRC013	347729	6610117	1010.1	Martins Shaft	-61.7	344.2	60	RC	Biacil Holdings	2011
SGRRC014	347732	6610098	1010.3	Martins Shaft	-62.2	347.3	72	RC	Biacil Holdings	2011
SGRRC015	347747	6610100	1008.5	Martins Shaft	-62.1	347.3	90	RC	Biacil Holdings	2011

Criteria	JORC Code explanation	Commentary

SGRRC016	347761	6610103	1006.3	Martins Shaft	-61.8	343.3	84	RC	Biacil Holdings	2011
SGRRC017	347696	6610072	1014.5	Martins Shaft	-62.8	343.8	117	RC	Biacil Holdings	2011
SGRRC018	347716	6610075	1012.5	Martins Shaft	-60	340	65	RC	Biacil Holdings	2011
SGRRC019	347713	6610090	1012.6	Martins Shaft	-60	340	87	RC	Biacil Holdings	2011
SGRRC020	347781	6610108	1003.1	Martins Shaft	-61.2	359.7	90	RC	Biacil Holdings	2011
SGRRC021	347736	6610079	1010.1	Martins Shaft	-60.9	344.4	105	RC	Biacil Holdings	2011
SGRRC022	347720	6610046	1013.9	Martins Shaft	-61.5	346.9	153	RC	Biacil Holdings	2011
SGRRC023	348098	6611917	969.2	Vickers Prospect	-61.7	317	63	RC	Biacil Holdings	2011
SGRRC024	348115	6611935	968.9	Vickers Prospect	-60.7	312.5	54	RC	Biacil Holdings	2011
SGRRC025	348144	6611964	967.3	Vickers Prospect	-61.8	303.8	69	RC	Biacil Holdings	2011
SGRRC026	348083	6611886	971.4	Vickers Prospect	-62.1	310.5	65	RC	Biacil Holdings	2011
SGRRC027	348064	6611858	972	Vickers Prospect	-60.9	304.6	51	RC	Biacil Holdings	2011
SGRRC028	348089	6611919	971.2	Vickers Prospect	-61.1	310.4	57	RC	Biacil Holdings	2011
SGRRC029	348116	6611899	965.7	Vickers Prospect	-62.1	313	104	RC	Biacil Holdings	2011
SGRRC030	347690	6610160	1012.6	Martins Shaft	-60.6	159.9	139	RC	Biacil Holdings	2011
SGRRC031	347688	6610173	1011.3	Martins Shaft	-60.1	345.3	37	RC	Biacil Holdings	2011
SGRRC032	347714	6609964	1014.2	Martins Shaft	-60.3	343.7	247	RC	Biacil Holdings	2011
SGRRC033	347714	6610024	1015.5	Martins Shaft	-60	340	87	RC	Biacil Holdings	2011

Criteria	JORC Code explanation	Commentary

SGRRC034	347713	6610027	1015.6	Martins Shaft	-60.5	346.5	139	RC	Biacil Holdings	2011
SGRRC035	347686	6610071	1015.3	Martins Shaft	-60.6	348.1	133	RC	Biacil Holdings	2011
SGRRC036	347676	6610070	1016.3	Martins Shaft	-60	340	115	RC	Biacil Holdings	2011
SGRRC037	347851	6610932	1003.8	Little Gracie	-90	0	27	RC	Biacil Holdings	2011
SGRRC038	347826	6610933	1005.4	Little Gracie	-60	96.3	55	RC	Biacil Holdings	2011
SGRRC039	347854	6611000	1001.9	Little Gracie	-60	310.4	49	RC	Biacil Holdings	2011
SGRRC051	350250	6615680	961.6	Goldsworth Mine	-74	140	103	RC	Biacil Holdings	2011
SGRRC052	350228	6615701	961.1	Goldsworth Mine	-60	140	40	RC	Biacil Holdings	2011
SGRRC053	350223	6615699	961	Goldsworth Mine	-78	140	67	RC	Biacil Holdings	2011
SGRRC054	350216	6615717	960.5	Goldsworth Mine	-75	140	121	RC	Biacil Holdings	2011
SGRRC055	350197	6615683	961.4	Goldsworth Mine	-60	62	67	RC	Biacil Holdings	2011
SGRRC056	350177	6615658	962.1	Goldsworth Mine	-65	138	55	RC	Biacil Holdings	2011
SGRRC057	350108	6615604	963.3	Goldsworth Mine	-60	140	98	RC	Biacil Holdings	2011
SGRRC058	350326	6615752	959.4	Goldsworth Mine	-60	140	37	RC	Biacil Holdings	2011
SGRRC059	350361	6615792	958.6	Goldsworth Mine	-74	140	61	RC	Biacil Holdings	2011
SGRRC060	350404	6615817	958.4	Goldsworth Mine	-70	140	67	RC	Biacil Holdings	2011

Criteria	JORC Code explanation	Commentary									
		SGRRC061	350439	6615853	957.1	Goldsworth Mine	-70	140	55	RC	Biacil Holdings	2011
		SGRRC062	350477	6615888	956.7	Goldsworth Mine	-70	140	48	RC	Biacil Holdings	2011
		SGRRC063	350508	6615930	955.2	Goldsworth Mine	-70	140	67	RC	Biacil Holdings	2011
		SGRRC064	350384	6615846	957	Goldsworth Mine	-70	140	103	RC	Biacil Holdings	2011
		SGRRC065	350023	6615551	964.8	Goldsworth Mine	-66	152	121	RC	Biacil Holdings	2011
		SGRRC066	349960	6615476	967.4	Goldsworth Mine	-66	134	115	RC	Biacil Holdings	2011
		SGRRC067	350341	6615824	957.2	Goldsworth Mine	-62	144	103	RC	Biacil Holdings	2011
		SGRRC068	350207	6615859	956.4	Goldsworth Mine	-58	140	67	RC	Biacil Holdings	2011
		SGRDD023	349674	6612150	963.3	Frasers Find			14.7	DD	Biacil Holdings	2012
		SGRDD024	349676	6612147	963.8	Frasers Find			17.1	DD	Biacil Holdings	2012
		SGRDD025	349661	6612146	963.7	Frasers Find			17.2	DD	Biacil Holdings	2012
		SGRDD026	349678	6612144	964.2	Frasers Find			17.9	DD	Biacil Holdings	2012
		SGRDD027	349664	6612140	963.9	Frasers Find			22	DD	Biacil Holdings	2012
		SGRDD028	349664	6612139	964.2	Frasers Find			22.2	DD	Biacil Holdings	2012
		SGRDD029	349666	6612132	962.3	Frasers Find			31.2	DD	Biacil Holdings	2012
		SGRDD030	349669	6612122	964.1	Frasers Find			48.1	DD	Biacil Holdings	2012
		SGRDD031	349680	6612125	964.9	Frasers Find			45.4	DD	Biacil Holdings	2012

Criteria	JORC Code explanation	Commentary

SGRDD032	349500	6612047	962	Frasers Find			55.8	DD	Biacil Holdings	2012
SGRDD033	349455	6612020	943	Frasers Find			40.2	DD	Biacil Holdings	2012
SGRDD034	349677	6612149	964.9	Frasers Find			13.4	DD	Biacil Holdings	2012
SGRDD035	349651	6612126	963.8	Frasers Find			25.3	DD	Biacil Holdings	2012
SGRDD040	351595	6608210	964.9	Melvaines			27.1	DD	Biacil Holdings	2013
SGRDD041	351569	6608201	963.8	Melvaines			70.4	DD	Biacil Holdings	2013
SGRDD042	351584	6608234	964.1	Melvaines			39	DD	Biacil Holdings	2013
M-ZK0001	347739	6610026	1006	Martins Shaft	-75	296	245.5	RC	Biacil Holdings	2014
M-ZK0002	347670	6610041	1018.5	Martins Shaft	-75	15	214	RC	Biacil Holdings	2014
M-ZK0003	347653	6610118	1015.8	Martins Shaft	-80	60	125.7	RC	Biacil Holdings	2014
M-ZK0004	347676	6610102	1018.1	Martins Shaft	-90	0	201.6	RC	Biacil Holdings	2014
M-ZK0301	347700	6609992	1020.1	Martins Shaft	-75	296	220.4	RC	Biacil Holdings	2014
FF-ZK007	349426	6611926	949.1	Frasers Find	-60	210	276	DD	Biacil Holdings	2015
FF-ZK0802	349428	6611929	948.4	Frasers Find	-60	320	115.9	DD	Biacil Holdings	2015

Fender Project

- Percussion drilling undertaken by Fischer's Copper Mine Pty Ltd
- Drillhole collars digitized off georeferenced plan.
- Drillhole dip, azimuth and length (recorded in feet) taken from hand-drawn drilling cross-sections.

Hole_ID	East MGA20	North MGA20	RL	Dip	Azim	Length (m)
PDH01	321905	6545224	564	-46.5	070	30.5
PDH02	321906	6545224	564	-55	070	30.5

Criteria	JORC Code explanation	Commentary

PDH03	321893	6545191	561	-67	070	35.1
PDH04	321909	6545041	530	-90	070	22.6
PDH05	321798	6545080	541	-60	250	28.3
PDH06	321899	6545023	527	-70	250	35.1
PDH07	321867	6545051	539	-55	070	26.5
PDH08	321867	6545051	539	-83	070	50.3
PDH09	321854	6545061	542	-77.5	070	55.8
PDH10	321908	6544953	509	-51	250	35.1
PDH11	321858	6545140	553	-76	070	35.1

Tea Tree Project

- Reverse circulation drilling undertaken by Pinnacle Gold on the Shamrock Prospect

Hole_ID	East (MGA20, Z56)	North (MGA20, Z56)	RL	Dip	Azim	Length
SHM01	275504	6627121	531	241	-60	46
SHM02	275453	6627096	545	61	-60	77

Uralla West Project

- Diamond drilling undertaken by Sovereign Gold and Sugec Resources on the Bannaweera Prospect.

HOLE_ID	East MGA94	North MGA94	RL	Azim	Dip	Length	DRILL TYPE	TITLE REF	YEAR
SGRDD036	345937	6611550	993	100	-60	20.2	DD-BQ	EL7491	2013
SGRDD037	345952	6611577	994	105	-60	16.9	DD-BQ	EL7491	2013
SGRDD038	345938	6611587	992	105	-70	45.3	DD-BQ	EL7491	2013
SGRDD039	345848	6611426	983	100	-60	18.1	DD-BQ	EL7491	2013
SGRDD043	345836	6611429	981	98	-60	52.5	DD-BQ	EL7491	2013
SGRDD044	345984	6611628	995	100	-70	31.6	DD-BQ	EL7491	2013
SGRDD045	346490	6612619	994	100	-70	22.3	DD-BQ	EL7491	2013
ZK0001	345907	6611565	990	116.5	-75	150.4	DD-HQ	EL7491	2013
ZK0003	345896	6611570	989	116.5	-75	146.3	DD-HQ	EL7491	2013
ZK0005	345861	6611588	987	116.5	-75	220.1	DD-HQ	EL7491	2013
ZK0301	345856	6611479	992	116.5	-60	54	DD-HQ	EL7491	2013
ZK0303	345838	6611487	983	116.5	-75	141.1	DD-HQ	EL7491	2013
ZK0401	345956	6611646	993	116.5	-75	159	DD-HQ	EL7491	2013
ZK0701	345819	6611403	979	116.5	-60	33.9	DD-HQ	EL7491	2013

Criteria	JORC Code explanation	Commentary

ZK0703	345769	6611409	971	116.5	-75	204.5	DD-HQ	EL7491	2013
ZK0801	346003	6611736	1002	116.5	-75	128	DD-HQ	EL7491	2013
ZK0901	345788	6611359	974	116.5	-70	33.6	DD-HQ	EL7491	2013
ZK1001	346056	6611768	1006	116.5	-70	45.8	DD-HQ	EL7491	2013
ZK1101	345763	6611301	968	116.5	-60	52.7	DD-HQ	EL7491	2013
ZK1201	346079	6611813	1006	116.5	-70	21.6	DD-HQ	EL7491	2013
ZK3201	346343	6612271	1001	116.5	-70	32	DD-BQ	EL7491	2013
ZK3801	346395	6612404	1005	116.5	-70	44.3	DD-BQ	EL7491	2013
ZK4801	346484	6612624	1002	116.5	-70	44.8	DD-BQ	EL7491	2013
ZK20001	345554	6613042	1006	125	-75	145.5	DD-HQ	EL7491	2013
ZK23001	345958	6613673	1006	125	-75	112.4	DD-HQ	EL7491	2013

Competent Person's comments

- Drillhole locations have been taken from the GSNSW database or historical exploration technical reports.
- Collar positions, especially for the earlier drillholes, may have a degree of uncertainty that needs to be verified by future exploration programs

Data aggregation methods

- *In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (eg cutting of high grades) and cut-off grades are usually Material and should be stated.*
- *Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.*
- *The assumptions used for any reporting of metal equivalent values should be clearly stated.*

Webbs Consols Project

- Significant drillhole intervals calculated as weighted average using >1% Pb / Zn cut-off grades.
- No metal equivalent values reported.

Uralla Project

- Significant drillhole intervals calculated as weighted average using >0.5 g/t Au cut-off grades.
- No metal equivalent values reported.

Fender Project

- Details of drilling, sampling, assaying not available.

Criteria	JORC Code explanation	Commentary
		• Significant intersections taken from historical report and converted from downhole depths in feet. **Tea Tree Project** • Significant drillhole intervals calculated as weighted average using >0.5 g/t Au cut-off grades. • No metal equivalent values reported. **Uralla West Project** • Significant drillhole intervals calculated as weighted average using >0.5 g/t Au cut-off grades. • No metal equivalent values reported. **Competent Person's comments** • Data aggregation methods and cut-off grades are regarded as appropriate for the style of mineralisation
Relationship between mineralisation widths and intercept lengths	• *These relationships are particularly important in the reporting of Exploration Results.* • *If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.* • *If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (eg 'down hole length, true width not known').*	**Webbs Consols Project** • Relationship between drillhole intervals and mineralisation not fully understood as most drillholes failed to intersect significant mineralisation. • Significant intervals reported as downhole lengths. **Uralla Project** • Relationship between drillhole intervals and mineralisation not fully understood as most drillholes failed to intersect significant mineralisation. • Significant intervals reported as downhole lengths.

Criteria	JORC Code explanation	Commentary
		Fender Project • Details of drilling not available. • Significant intervals reported as downhole lengths. **Tea Tree Project** • Relationship between drillhole intervals and mineralisation not fully understood. • Significant intervals reported as downhole lengths. **Uralla West Project** • Relationship between drillhole intervals and mineralisation not fully understood. • Significant intervals reported as downhole lengths. **Competent Person's comments** • Lack of information on the relationship between drillhole intervals and mineralisation is not considered to be material at this stage of the project development but needs to be assessed in future drilling programs.
Diagrams	• *Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.*	**Webbs Consols Project** • Plans of drillhole collars and traces presented in Section 7.7 in the IGR, showing significant mineralisation intervals. **Uralla Project** • Plan of drillhole collar locations presented in Section 8.8 in the IGR.

Criteria	JORC Code explanation	Commentary
		Fender Project • Plan of approximate drillhole collar locations presented in Section 9.8 in the IGR. **Tea Tree Project** • Plan of drillhole collar locations presented in Section 11.8 in the IGR. **Uralla West Project** • Plan of drillhole collar locations presented in Section 12.8 in the IGR. **Competent Person's comments** • Maps and diagrams have been prepared taking the exploration data at face value with no adjustments.
Balanced reporting	• *Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.*	**Webbs Consols Project** • Plans showing significant results and locations of insignificant sampling presented in Section 7.7 in the IGR. **Uralla Project** • Plans showing significant results and locations of insignificant sampling presented in Section 8.6 in the IGR. **Fender Project** • Plans showing significant results and locations of insignificant sampling presented in Section

Criteria	JORC Code explanation	Commentary
		9.3 in the IGR. **Elsinore Project** • Plan showing results of anomalous soil sampling presented in Section 10.3 in the IGR. Raw assay data not reported. **Tea Tree Project** • Most rock chip samples collected from old workings and are not likely to be representative of the entire deposit. **Thor Project** • Plan showing significant BLEG results and locations of insignificant sampling presented in Figure 58. **Uralla West Project** • Plans showing significant soil sampling results and locations of insignificant sampling presented in Section 13.5 in the IGR. **Competent Person's comments** • Plans included in the IGR show results of all samples collected during historical exploration programs. In some plans the more significant results have been labelled to indicate zones of better mineralisation
Other substantive	• *Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey*	**Webbs Consols Project**

Criteria	JORC Code explanation	Commentary
exploration data	*results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.*	• Plan showing processed IP data presented in Section 7.6 in the IGR. The data indicates a significant chargeability anomaly around the Lucky Lucy prospect. **Uralla Project** • Plans showing geophysics anomalies presented Section 8.5 in the IGR. Significant IP chargeability anomalies have been detected at the Martin's Shaft, McCrossin's and Hudson's prospect.

Further work	• *The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).*
	• *Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.*
		Webbs Consols Project
		• Recommendations for further work include:
		  • Diamond drilling of the down-plunge extensions of the Webbs Consols mineralisation: 3-4 drillholes totalling ~800m; downhole IP if sufficient mineralisation intersected
		  • Diamond drilling of the down-plunge extensions of the Tangoa mineralisation: 3-4 drillholes totalling ~800m; downhole IP if sufficient mineralisation intersected
		  • If the CRA geophysics and geochemistry plans can be georeferenced, digital data entry of IP geophysics and geochemical sampling data
		  • If required, additional IP surveys to firm up drilling targets in anomalous areas, including the Tangoa West and Tangoa South prospects, and the IP anomaly north of Lucky Lucy
		  • Diamond drilling of targets defined by the data processing or additional IP surveys.
		
		Uralla & Uralla West Projects
		• Recommendations for further work include:
		  • RC drilling of the IP anomalies detected at Hudson's, McCrossin's, Martin's Shaft and Fraser's Find prospects. Careful selection of drillhole orientations is recommended to ensure that the drillholes intersect the controlling structures

Criteria	JORC Code explanation	Commentary
		• Coverage of the Vickers prospect to Gracie prospect area with grid soil sampling using a portable XRF analyser tuned to detect arsenic, lead and zinc anomalies as pathfinder elements for the gold mineralisation. Anomalous zones may be tested with RAB drilling to better define the zones • Follow-up diamond drilling to better define any significant mineralised zones • Extend the IP survey at McCrossin's prospect to close off the anomaly to the south. • IP surveys at Bannaweera Prospect to delineate the alteration / mineralisation zones prior to deeper drilling **Fender Project** • Recommendations for further work include: • Exploration programs of detailed geochemistry, geophysics and drilling are warranted to evaluate the potential for economic mineralisation at the known occurrences. We consider that further exploration should have as an objective the drill testing of the better of the prospects, especially the Trough Gully, Fisher's and Mt Pleasant prospects. • Follow-up geological mapping of the PeelEx 1-001 anomaly to determine the source of the magnetic anomaly and anomalous copper values **Elsinore Project** • Recommendations for further work include: • Acquisition and modelling of the Sovereign Gold IP survey data. Additional IP surveying may be necessary prior to any drilling to determine the extent of the chargeable response. **Tea Tree Project** • Recommendations for further work include: • Testing of historical workings with geological mapping, rock chip sampling and IP

Criteria	JORC Code explanation	Commentary

		geophysics to define drilling targets.
		
		Thor Project
		• Recommendations for further work include:
		  • Review and re-interpretation of the regional airborne magnetics data to define zones of possible structural disruption that could provide channel ways for mineralising fluids.
		  • Geological mapping and sampling of prospective stratigraphy identified in areas of structural complexity.
		
		Competent Person's comments
		• Recommendations for further work are based on the CP's assessment of the relative merits of the various prospects and the likelihood for success from the programs

SECTION 3 - ESTIMATION AND REPORTING OF MINERAL RESOURCES	SECTION 4 - ESTIMATION AND REPORTING OF ORE RESERVES
Webbs Consols Project • No Mineral Resources reported	**Webbs Consols Project** • No Ore Reserves reported
Uralla Project • No Mineral Resources reported.	**Uralla Project** • No Ore Reserves reported.
Fender Project • No Mineral Resources reported	**Fender Project** • No Ore Reserves reported
Elsinore Project • No Mineral Resources reported.	**Elsinore Project** • No Ore Reserves reported
Tea Tree Project • No Mineral Resources reported.	**Tea Tree Project** • No Ore Reserves reported.
Thor Project • No Mineral Resources reported	**Thor Project** • No Ore Reserves reported
Uralla West Project • No Mineral Resources reported.	**Uralla West Project** • No Ore Reserves reported.

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Annexure B – Revised Solicitor's Report on Tenements

RESOURCES LEGAL PTY LTD
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Liability limited by a scheme approved under Professional Standards Legislation

3 May 2021

The Directors
Lode Resources Ltd
Suite 4, 29 Kiora Road
Miranda NSW 2228
Australia

Dear Sirs

SOLICITOR'S REPORT ON TENEMENTS

1. INTRODUCTION

This report is prepared for inclusion in a prospectus (**Prospectus**) for issue by Lode Resources Ltd (ACN 637 512 415) (**Lode Resources** or **Company**) to be lodged with the Australian Securities and Investments Commission for an Offer of between 25,000,000 and 37,500,000 Shares at an issue price of $0.20 per Share to raise between $5,000,000 and $7,500,000.

The report relates to the mining tenements in which the Company holds an interest (**Tenements**). All of the Tenements are located in New South Wales (**NSW**). The attached Tenement Schedule (**Schedule)** and notes to the Schedule contain an overview of the Tenements.

The Company holds a 100% interest in all of the Tenements. There are no encumbrances registered against any of the Tenements.

2. OPINION

Based on our searches and enquiries, and subject to the assumptions and qualifications set out below, we confirm at the date of the searches that:

(a) the details of the Tenements referred to in the Schedule are accurate as to the status and registered holder of the Tenements;

(b) unless otherwise specified in this report, the Tenements are in good standing, and all applicable rents and levies have been paid;

(c) there are no encumbrances or dealings registered against the Tenements;

(d) none of the Tenements are subject to any unusual conditions of a material nature other than as disclosed in the Schedule; and

(e) subject to the comments below relating to standard administrative authorisations, which are normally applied for at the time of finalising the details of individual exploration programs, or as otherwise detailed in this Prospectus, there are no legal, regulatory or

contractual impediments to the Company undertaking the proposed exploration on the Tenements as detailed elsewhere in the Prospectus.

3. SEARCHES

For the purpose of this report, we have obtained and reviewed:

(a) searches of the Tenements in the mining tenement register maintained by the Division of Resources and Geoscience of the NSW Department of Planning and Environment (**DPE**) under the *Mining Act 1992* (NSW) and *Mining Regulation 2016* (NSW) (**Mining Act**) conducted on 16 March 2021; and

(b) searches of the native title register maintained by the National Native Title Tribunal on 4 March 2021.

4. ASSUMPTIONS AND QUALIFICATIONS

In preparing this report:

(a) we have assumed the accuracy and completeness of results of the searches of the registers maintained by the various government agencies;

(b) we have been advised that there are no contracts, agreements or arrangements relating to the Tenements, with the exception of land access agreements summarised in Note 4 to the Schedule;

(c) where any agreement, dealing or act (including disturbing the land for exploration) affecting the Tenements requires an authorisation, approval, permission or consent (**Authorisation**) under the Mining Act, or any other relevant legislation, we have assumed that Authorisation has been or will be granted in due course;

(d) where any dealing in the Tenements has been lodged for registration but is not yet registered, we express no opinion as to whether the registration will be effected, or the consequences of non-registration;

(e) we have assumed that the Company has complied with all applicable provisions of the Mining Act and all other legislation relating to the Tenements; and

(f) we have not researched the underlying land tenure in respect of the Tenements to determine if:

  (i) native title rights have or have not been extinguished, or the extent of any extinguishment; or

  (ii) the Tenements encroach on any private land in which the rights to minerals have been reserved to the owner of the land.

5. TENEMENT SCHEDULE

The Schedule sets out a brief description of the Tenements and a summary of any encumbrances.

In relation to the area of each Tenement specified in the Schedule:

(a) the area is described by units, given by one minute of latitude by one minute of longitude on the earth's surface. In the general location of the Tenements each unit is approximately 2.96 sq km in the New England Fold Belt, where the tenements are located. Areas given in sq km are therefore approximate only. It is not possible to verify those areas without conducting a survey; and

(b) the area might be reduced by a number of exclusions, including the existence of mining leases, National Parks or reserves situated within the boundaries of the relevant Tenement.

6. BACKGROUND ON EXPLORATION LICENCES IN NSW

The Tenements comprise seven exploration licences (prefix **EL**) granted under the Mining Act. The ELs are for Group 1 Minerals, comprising metallic minerals.

(a) Rights of a holder of an EL

The rights of a holder of an EL are subject to compliance by that holder with the provisions of the Mining Act and the terms and conditions of the licence.

An EL gives the holder the exclusive right to explore for minerals over a specific area of land. The holder of an EL may, in accordance with the terms and conditions of the EL and subject to the Mining Act, conduct exploration activities on the land specified in the EL for the group of minerals specified in the licence.

An EL does not permit mining, and an EL holder will not necessarily be permitted to mine in the future if a discovery is made.

(b) Term and transfer

An EL may be granted for up to six years, and may be extended by successive periods of up to six years, on application by the holder. However, ELs are generally granted and renewed for periods of three years, depending on the proposed work program and other factors. An EL may be transferred to another person upon approval by the Minister for Energy and Environment (**Minister**). In approving a transfer, the Minister may impose amended or additional conditions on the holder of the EL.

(c) Renewal

An EL will not usually be renewed over more than half the number of units comprising the original EL unless the Minister is satisfied that special circumstances exist, including that the conditions of the licence have been satisfactorily complied with, the full area of the EL has been effectively explored, and the proposed work program satisfactorily covers the full area to be renewed.

Provided the above conditions of renewal continue to be met, we do not see any reason why the Minister would not grant a renewal of all of the units comprising the Tenements for further periods of three years.

(d) Conditions

Each of the Tenements are subject to standard conditions that must be complied with, including expenditure to meet the annual proposed work program, payment of government fees, and the requirement to lodge annual technical reports. Standard conditions also stipulate that a tenement holder must obtain the consent of an officer of the DPE prior to conducting any ground disturbing work, and include basic environmental and rehabilitation conditions, such as the removal of all waste, capping of drill holes, etc.

The Minister's approval is required for a change of effective control of a licence holder. There is an exemption if the change of control occurs as a result of the acquisition of shares on a registered stock exchange.

Holders must also comply with the Exploration Codes of Practice, including the Environmental Management Code, the Rehabilitation Code, which requires the holder to rehabilitate, level, re-grass, reforest or contour land that has been damaged or adversely affected by exploration activities, and the Community Consultation Code. A Review of Environmental Factors and an Agricultural Impact Statement may be required for surface-disturbing exploration activities such as drilling.

Failure by the holder of an EL to comply with these conditions may render the EL liable to cancellation.

(e) **Environmental and planning legislation**

Licence holders may also be required to obtain approvals under and comply with environmental and planning and other legislation, including:

(i) *Environmental and Planning Assessment Act 1979* (NSW);

(ii) *Protection of the Environment Operations Act 1997* (NSW); and

(iii) *Water Act 1912* and *Water Management Act 2000* (NSW).

(f) **Access agreements**

Prior to commencing exploration activities on private land, an access agreement must be entered into with the owner or occupier of the land[1]. Compensation is payable for any loss or damage caused by the activities[2].

(g) **Annual rents and levies**

An annual rental and an administrative levy are payable, based on the size of the EL. ELs are also subject to expenditure requirements in accordance with work programs approved by the DPE. These rental, levy and expenditure requirements are set out in the Schedule. Payment of rentals and levies are currently up to date. Failure to comply with expenditure requirements may render the EL liable to cancellation.

7. ROYALTIES

Tenement holders must pay royalties to the NSW government on minerals (including material containing minerals) obtained from a mining tenement. Royalties are payable quarterly and must be accompanied by a royalty return in the approved form. The holder of a mining tenement must provide a quarterly production report commencing at the expiration of the first quarter during which any mineral is produced or obtained from that mining tenement.

Royalty rates for Group 1 Minerals, comprising metallic minerals, are generally 4% of the value of the mineral recovered[3].

8. REHABILITATION SECURITIES

The holder of a Tenement is required to lodge a security by way of a cash deposit or banker's undertaking for the performance of its rehabilitation and other obligations arising under the Tenement. The security for each of the Tenements is $10,000.

9. NATIVE TITLE

(a) **Background**

Native title or claims for native title exist over parts of NSW.

The existence of a lodged claim does not necessarily mean that native title exists over the area claimed, nor does the absence of a claim necessarily indicate that no native title exists in an area. The existence of native title will be established under the determination of claims by the Federal Court.

The grant of a mining tenement is a 'Future Act' for the purposes of the *Native Title Act 1993* (Cth) (**NTA**)[4]. A Future Act is an activity or development on land or waters that affects native title. Native title claimants gain the "right to negotiate" in relation to the grant of certain mining tenements if their native title claim is registered at the time the government issues a notice,

[1] Section 140 *Mining Act 1992* (NSW)
[2] Section 263 *Mining Act 1992* (NSW)
[3] Section 73, *Mining Regulation 2016* (NSW)
[4] Section 233, *Native Title Act 1993* (Cth)

known as a section 29 notice, stating it intends to do the act, in this case grant the mining tenement, or if their claim becomes registered within four months after that notice.

(b) **Right to negotiate**

The right to negotiate applies in the main to the grant of a mining lease and describes a process whereby the tenement applicant and native title claimant must negotiate in good faith to attempt to resolve any potential concerns the native title claimants may have arising from the mining lease application or its grant. If the parties cannot reach agreement as to the terms of grant, a negotiation party may apply to the National Native Title Tribunal (**NNTT**) to make a determination as to whether the grant may proceed (and if so, on what conditions).

The right to negotiate process does not necessarily have to be followed in locations where an Indigenous Land Use Agreement (**ILUA**) has been negotiated with the relevant Aboriginal people and registered with the NNTT. In such cases the procedures set out in the ILUA must be followed for the ML to be granted.

(c) **Searches**

Searches conducted of the register maintained by the NNTT on 4 March 2021 showed that all of the Tenements overlap in part or whole with a registered native title claim by the Gomeroi People, which affects a large part of the New England area. The claim was registered in 2012 and has not yet been determined. The searches also showed that none of the Tenements is subject to a registered ILUA.

It is possible that the ELs may be affected by additional native title claims, and the existing registered claims determined by the court, which may impact proposed programs of work.

(d) **Effect of native title on the Tenements**

ELs are generally subject to a condition that requires the holder to obtain the Minister's consent before carrying out exploration activity on land where native title has not been extinguished. Ministerial consent will only be granted after the right to negotiate process has been followed, or the land on which native title has not been extinguished has been excised from the EL. The grant of a mining lease over land where native title has not been extinguished is also subject to the right to negotiate process.

The DPE has published guidelines on the evidence required to demonstrate extinguishment of native title. Native title has been wholly extinguished over much of NSW, including through the grant of freehold estates, leases in perpetuity for grazing purposes under the *Western Lands Act 1901*, and the establishment of public works.

(e) **Native title and proposed programs of work**

Under current programs of work, exploration activities are proposed only on grazing land where native title has been extinguished. The Minister's consent is not required to carry out exploration activity on land where native title has been extinguished. If future work or an application for a mining lease is proposed over land where native title has not been extinguished, such as a road reserve, the right to negotiate process must be followed under the NTA, and there is no guarantee that access will be available.

(f) **Compensation**

The Mining Act makes mining tenement holders liable for any native title compensation that may be payable as a result of the grant of the mining tenement[5]. If the existence of native title is proven over any of the land subject to the Tenements, and the native title holders make an application to the Federal Court for compensation, the Tenement holder may be liable to pay any compensation awarded.

[5] Section 281B *Mining Act 1992* (NSW)

10. ABORIGINAL HERITAGE

(a) Commonwealth

The *Aboriginal and Torres Strait Islander Heritage Protection Act 1984* (Cth) (**Commonwealth Heritage Act**) is aimed at the preservation and protection of any Aboriginal areas and objects that may be located on the Tenements.

Under the Commonwealth Heritage Act, the Minister for Aboriginal Affairs may make interim or permanent declarations of preservation in relation to significant Aboriginal areas or objects, which can affect exploration activities. Compensation is payable by the Minister to a person who is, or is likely to be, affected by a permanent declaration of preservation.

(b) New South Wales

Under the *National Parks and Wildlife Act 1974 (NSW)* (**NSW Heritage Act**), land containing Aboriginal objects or sites may be reserved as an "Aboriginal area" for the purpose of identifying, protecting and conserving such objects or sites. It is unlawful to prospect or mine for minerals in an Aboriginal area unless expressly authorised by an Act of Parliament or, among other things, an authority issued under the Mining Act. Subject to this exception, the NSW Heritage Act excludes the application of the Mining Act to lands in an Aboriginal area.

The NSW Heritage Act also authorises the Minister to declare a place that is or was of special significance to Aboriginal culture to be an 'Aboriginal place' and makes it an offence knowingly to destroy, deface or damage, or knowingly to permit the destruction, defacement of or damage to, an Aboriginal object or "Aboriginal place" without the consent of the Director-General.

(c) Heritage surveys

To satisfy the obligations under the relevant Heritage Act, tenement holders commonly undertake Aboriginal heritage surveys, which involve the relevant traditional owners and as necessary, an archeologist or anthropologist walking the land, identifying sites and discussing the impact of proposed exploration activity. The costs of a heritage survey are met by the tenement holder.

(d) Heritage searches

Searches of the Aboriginal Heritage Information Management System maintained by the Office of Environment and Heritage (NSW) were obtained by Geos Mining. The searches showed that the Tenements contain a number of known Aboriginal sites, including two "closed sites", as shown in Appendix 2 of the Independent Geologist's Report by Geos Mining dated 16 March 2021. The Company will review the location of each site when planning its exploration programs so as to ensure that activities near Aboriginal sites meet the requirements of the Commonwealth Heritage Act and the NSW Heritage Act.

There are currently no Aboriginal heritage agreements or arrangements in place affecting the Tenements.

11. LAND ACCESS

The primary drill targets specified in this Prospectus are the subject of signed access agreements over grazing land; there are a total of five access agreements in place with relevant rural property owners for the term of the respective EL as set out in the table below.
.

Under each agreement access is permitted upon 14 days' notice of planned activities, with compensation payable for ground disturbing activities at standard industry rates. The Company must comply with the "NSW Exploration Code of Practice: Environmental Management", including ensuring minimal disturbance to the ground or to stock on the land, and taking relevant measures to minimise the introduction of exotic weeds or plant diseases. Exploration is not permitted on land that contains significant improvements or within 50m of a

dam or within 200m of the principal residence, and the Company must take into consideration the Landowner's pastoral activities in undertaking each work program.

EL number	Name of rural property	Drill target
EL 8933 "Webs Consol"	"Canoon"	Webb Consol targets 1, 2 & 3
EL 8980 "Uralla"	"Khatoun"	Martin's Shaft, Hudson's Prospect, McCrossin's Prospect
EL 8980 "Uralla"	"Navalee"	Frazer's Find
EL 9003 "Fender"	"Red Rock"	Trough Gully Mine
EL 9004 "Elsinore"	"Dunoon"	Elsinore copper occurrences

There is no guarantee that access will continue to be available, however in the event of a dispute in relation to access either party can apply for arbitration under the Mining Act.

12. DRILL READY TARGETS

With land access available on the primary targets to be drilled under approved programs of work on the above ELs, the targets are "drill ready" as stated in the Prospectus.

13. CONSENT

This report is made on 16 March 2021 and relates only to the laws in force on that date. Resources Legal Pty Ltd has consented to the inclusion of this report in the Prospectus in the form and context in which it is included and has not withdrawn that consent prior to the lodgment of the Prospectus with ASIC.

14. DISCLOSURE OF INTEREST

Resources Legal Pty Ltd will be paid normal and usual professional fees for the preparation of this report and related matters, as set out elsewhere in the Prospectus.

Yours faithfully



Daven Timms
Director Principal
Resources Legal Pty Ltd

SCHEDULE – TENEMENTS

Tenement	Holder	No units/ approx. area sq km [1]	Grant Date	Expiry Date	Annual rental and levy [2]	Proposed expen-diture [3]	Encum-brances
EL 8933 "Webbs Consol" [4]	Lode	16/47	16.01.2020	16.01.2023	$1,060	$40,000	Nil
EL 8980 "Uralla" [4]	Lode	80/237	14.05.2020	14.05.2023	$4,900	$60,000	Nil
EL 9003 "Fender" [4]	Lode	76/225	12.10.2020	12.10.2023	$4,660	$45,000	Nil
EL 9004 "Elsinore" [4]	Lode	32/95	12.10.2020	12.10.2023	$2,020	$30,000	Nil
EL 9084 "Tea Tree"	Lode	24/71	11.3.2021	11.3.2024	$1,540	$35,000	Nil
EL 9085 "Thor"	Lode	78/231	11.3.2021	11.3.2024	$4,780	$45,000	Nil
EL 9087 "Uralla West"	Lode	22/65	12.3.2021	12.3.2024	$1,420	$20,000	Nil

Abbreviations

Lode = Lode Resources Ltd

Notes

1. One unit is the area bounded by one minute of latitude by one minute of longitude and, depending on the location in NSW, comprises an area of approximately 2.96 square kilometres.
2. The annual tenement rental is $60 per unit. The annual administrative levy is 1% of the security deposit (1% of $10,000 = $100 for most tenements). The renewal application fee is $2,000 plus $12.50 per unit per year applied for, eg renewal fee for 100 unit EL for three years is $2,000 plus $37.50 x 100 = $5,750.
3. Proposed expenditure in the current year of the licence term, to be met through current exploration work programs approved by the DPE. For example, EL 8933 requires an expenditure of $40,000 in the 12 months to 16.01.2022. Work may include geological mapping, rock chip sampling, soil geochemical surveys, geophysical surveys, modelling of results, drilling and core logging.
4. The Company has entered into access agreements with relevant landowners over the main targets on four ELs, containing customary terms and rates of compensation.