

# Fifield Exploration Update

## Highlights

- ✓ Phase 1 drilling results:
  - a. Northern Gold RC data supports IRGS model, and
  - b. Samples suitable for lithochemical classification generated for the Southern Area.
- ✓ Phase 2 drilling to include key southern areas expected to commence later this month.

Rimfire Pacific Mining NL (“Rimfire”, “Company”; ASX Code “RIM”) advises that assays for the first phase of the drilling program for Northern Gold, Northern Area and Southern Area have been received. These results support the Intrusion Related Gold System (IRGS) model at Northern Gold and have confirmed historically reported elevated copper in the Northern Area. The limited drilling completed in the Southern Area has generated samples suitable for lithochemical classification to determine if igneous rocks are part of the Ordovician Macquarie Arc. The Macquarie Arc age rocks host the nearby significant copper / gold and gold mineralised systems including Northparkes (CMOC) and Cowal (Evolution Mining) respectively.

Phase 2 drilling plans have also been finalised and drilling is expected to commence late November 2019 following completion of routine NSW Government drilling approval processes and local landholder access arrangements.



Aircore Drilling at Northern Area. Drilling technique requires no disturbance of topsoil and excess sample is placed back in hole on completion of sampling

The First Phase of RC drilling at the Northern Gold prospect consisted of 2 holes totalling 165.5m and followed on from a previous auger and single aircore drill hole program<sup>1</sup>. The Northern Gold prospect is 2km north of Sorpresa, and drilling, while not intersecting high gold grades, did generate anomalous gold (0.15 ppm), copper (0.17 %), lead (120 ppm) and zinc (0.13%) (Figure 1 and Table 1). These results are supportive of the IRGS model for mineralisation in the area. The geochemical trend of peak values for these elements suggests a gold vector direction likely to be away from the elevated zinc and lead which in this case is towards the north in direction of drill hole FI1961 (Figures 2 and 3). The surface gold remains unexplained by the limited drilling to date and further aircore drilling is planned with a focus closer to the area of Phase 1 drill hole FI1961.

Footnote 1 - [https://www.rimfire.com.au/site/PDF/2512\\_0/UpdateonPromisingNorthernGoldProspect](https://www.rimfire.com.au/site/PDF/2512_0/UpdateonPromisingNorthernGoldProspect)

The First Phase of aircore drilling at the Northern Area consisted of 11 holes totalling 408m with an average depth of 37m (Figure 4). Assays have confirmed elevated copper associated with a mafic diorite however no significant alteration has been observed.

At the Southern Area aircore drilling consisted of 14 holes totalling 634m (average depth 45m) drilled in two sub areas (Figure 5 and 6). The aircore drilling for both sub areas was designed to obtain bedrock samples to provide lithological, geochemical and alteration information below variable thicknesses of transported alluvial (not in situ) cover (Table 2). Two of the holes in the southern sub area (FI1982 & FI1983) are considered to have failed to reach bedrock. While assay results do not identify geochemical anomalism, the samples are suited to a litho-geochemical assessment to determine if the local bedrock is part of the Ordovician Macquarie Arc. The results from this work will be combined with further samples from the Phase 2 drilling to obtain sufficient data points to provide enough information to make a robust assessment on characterisation of magma and similarity to Macquarie Arc volcanism. The Macquarie Arc age rocks host nearby significant copper / gold and gold mineralised systems including Northparkes (CMOC) and Cowal (Evolution Mining) respectively.

### Phase 2 drilling plans

Upon initial review of the Phase 1 drilling program outcomes, the Phase 2 preliminary drill plans have been finalised, while further review, analysis and integration of results is undertaken. Where required applications have been submitted to the NSW Department Planning, Industry and Environment for required approvals and the Company is engaging with local landholders to organise access. The Phase 2 drilling will focus on the Northern Gold and Southern Areas with drilling expected to commence late in November 2019.

At Northern Gold the surface gold indicated by the field of historic gold workings remains unexplained and three fences of angled aircore holes are planned to be drilled to refusal across the prospect. This drilling is expected to assist in understanding the influence of structural controls on location of gold in the system as the limited drilling to date has been insufficient to obtain this level of information.

At the Southern Area one of the aims of the drilling program has been to confirm if the area of interpreted Ordovician rocks, delineated from the magnetic imagery, is indeed Ordovician. Samples of bedrock are targeted primarily for litho-geochemical testing and to assign rock types to particular signatures in the airborne magnetic data. Comparing magnetic signatures and bedrock lithologies to other igneous rocks in the Macquarie Arc it is possible to obtain an indication of geological setting. Positive results will support further work on assessing alteration and vectoring techniques towards the source of significant mineralisation.

### Rimfire Managing Director Craig Riley states:

*The Phase 1 drilling program results have provided valuable information to help guide the effectiveness of the Phase 2 drilling program activities. The next couple of months will be quite exciting as we obtain the results from the Phase 2 drilling and plan for a successful 2020.*

**Craig Riley**  
Managing Director

Figure 1: Northern Gold Phase 1 Drilling Location Plan

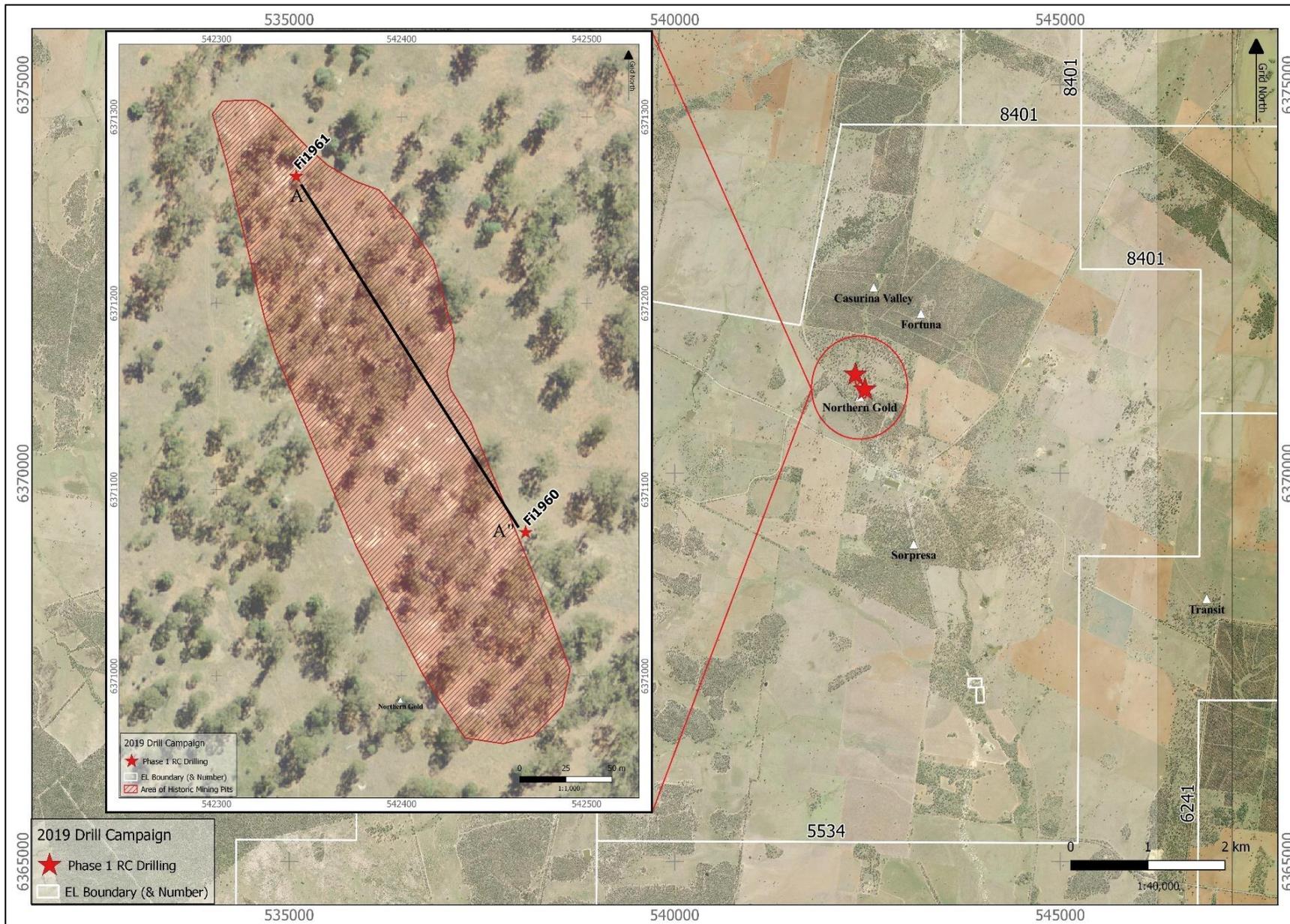


Figure 2: Northern Gold Phase 1 RC drilling oblique cross section (A"-A on figure 1)

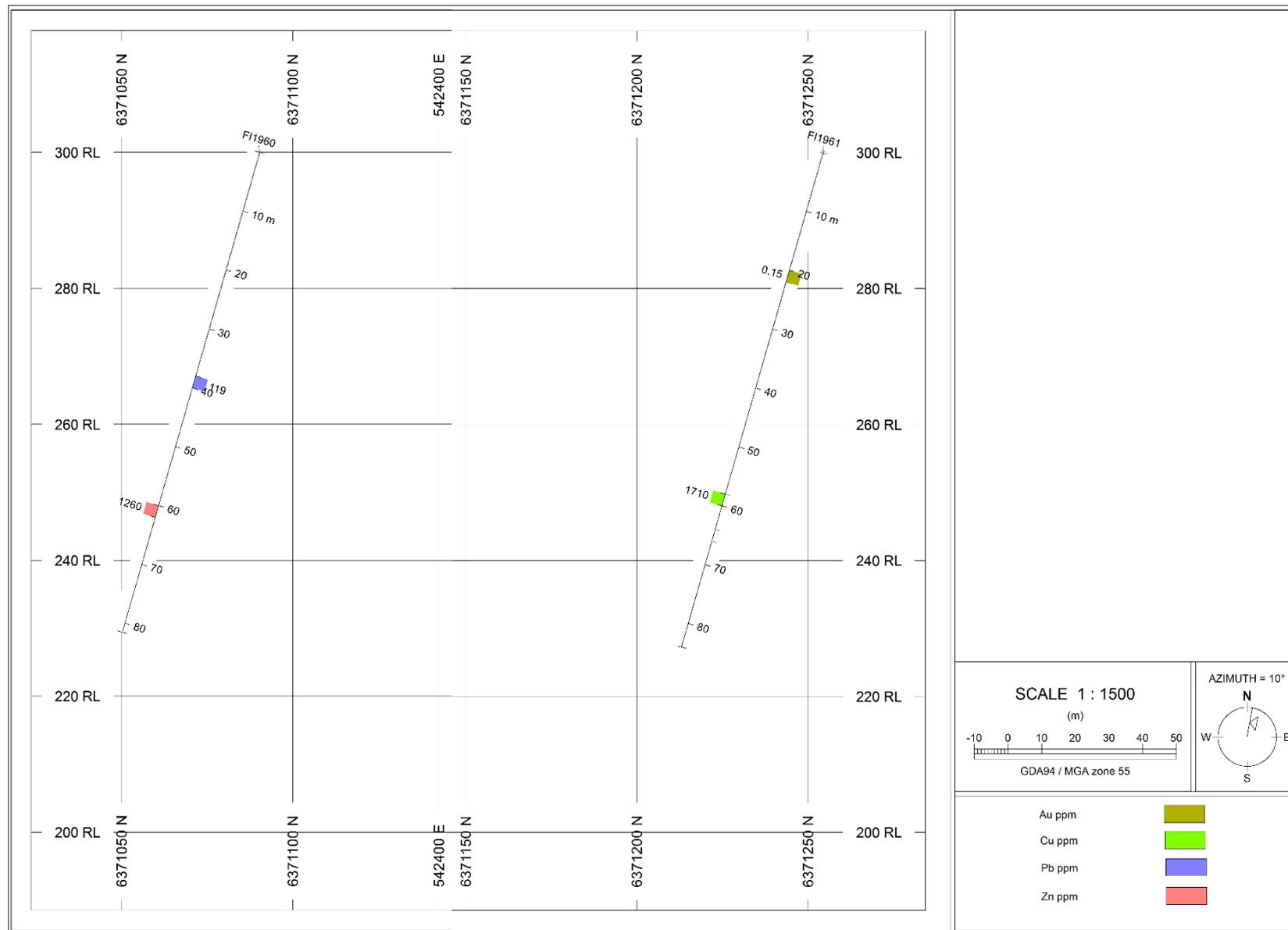


Figure 3: Northern Gold Recent Holes and Past Work

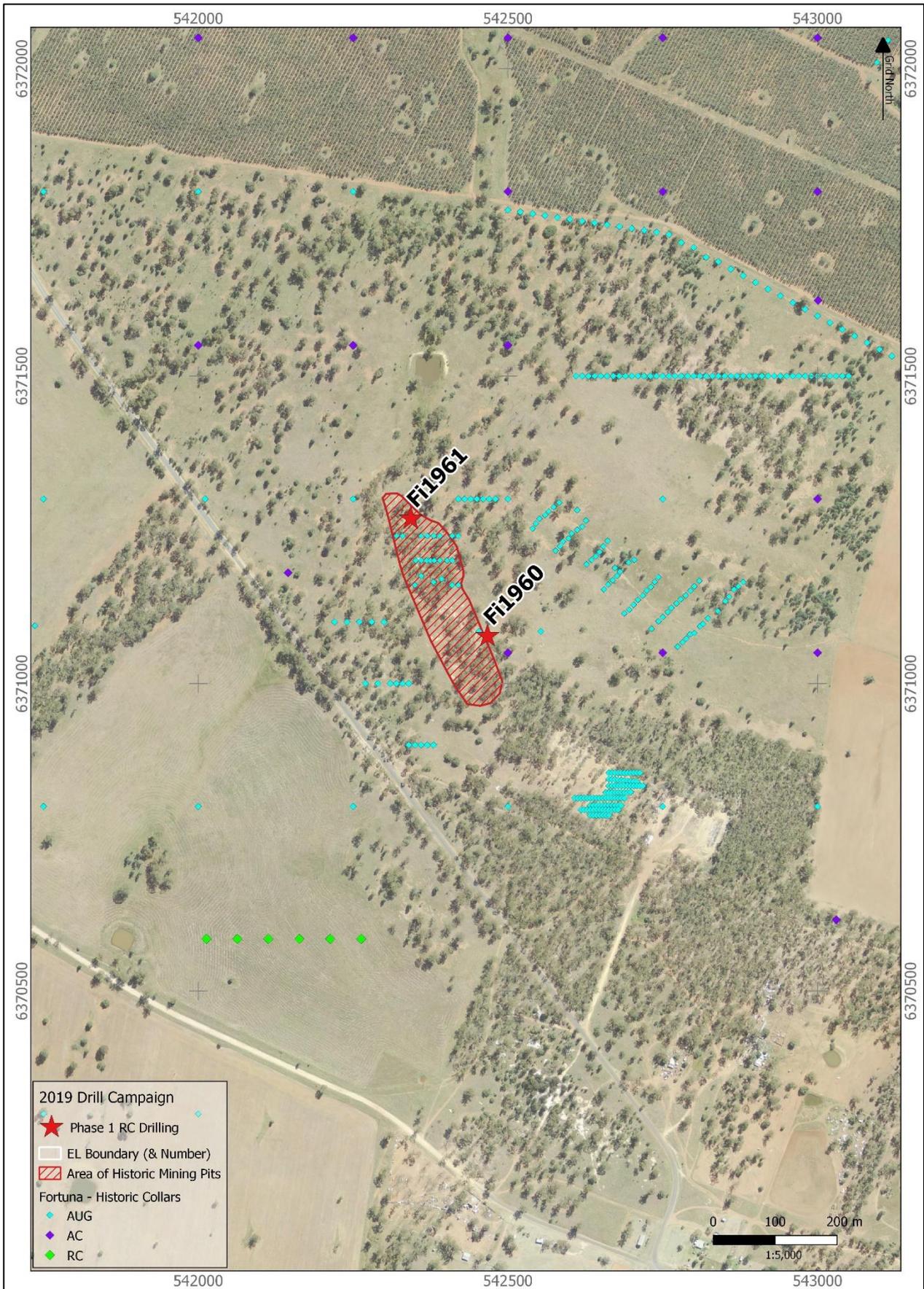


Figure 4: Northern Area Aircore Drill Hole and Location Plan

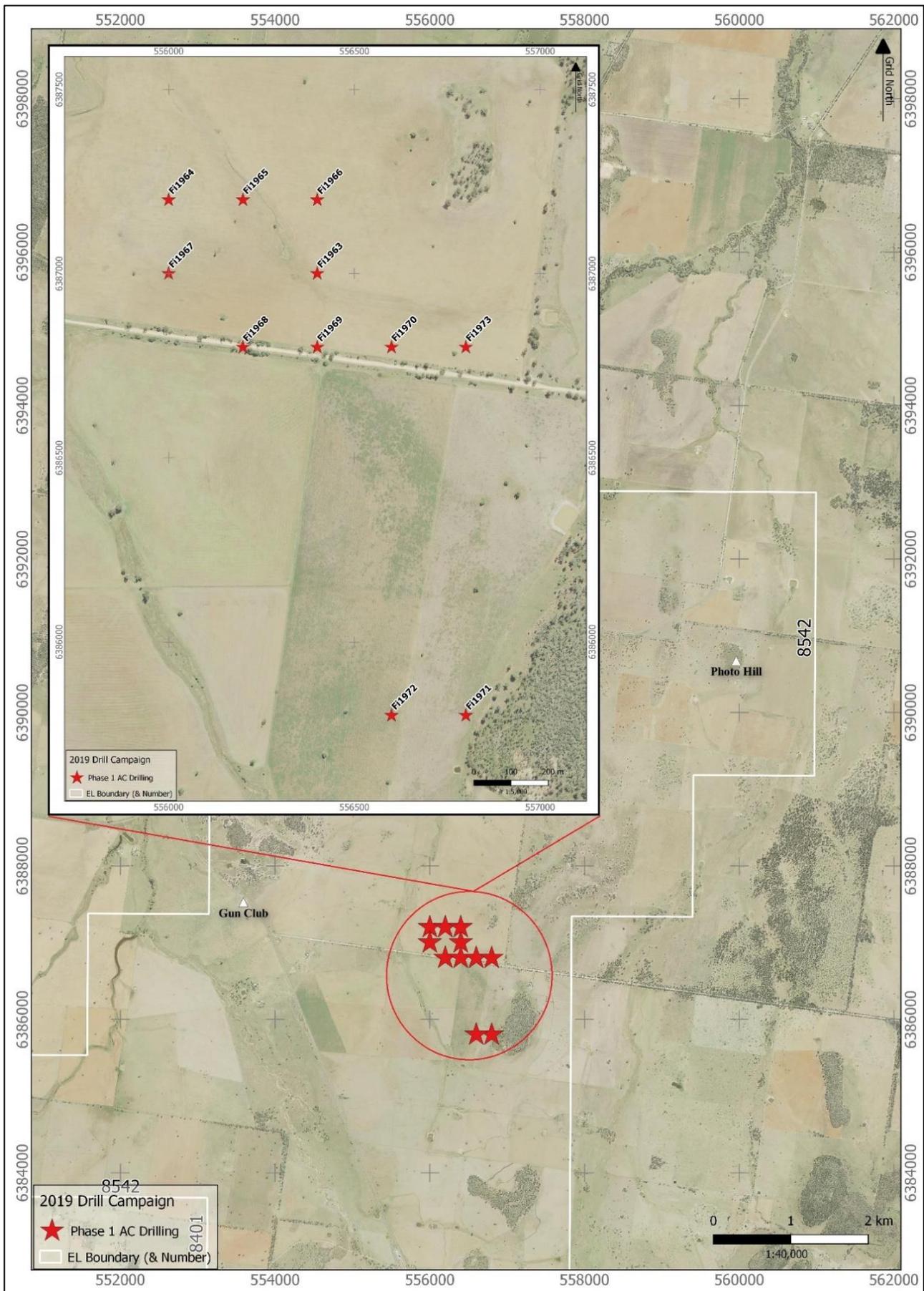


Figure 5: Southern Area Aircore Drill Hole Location Plan

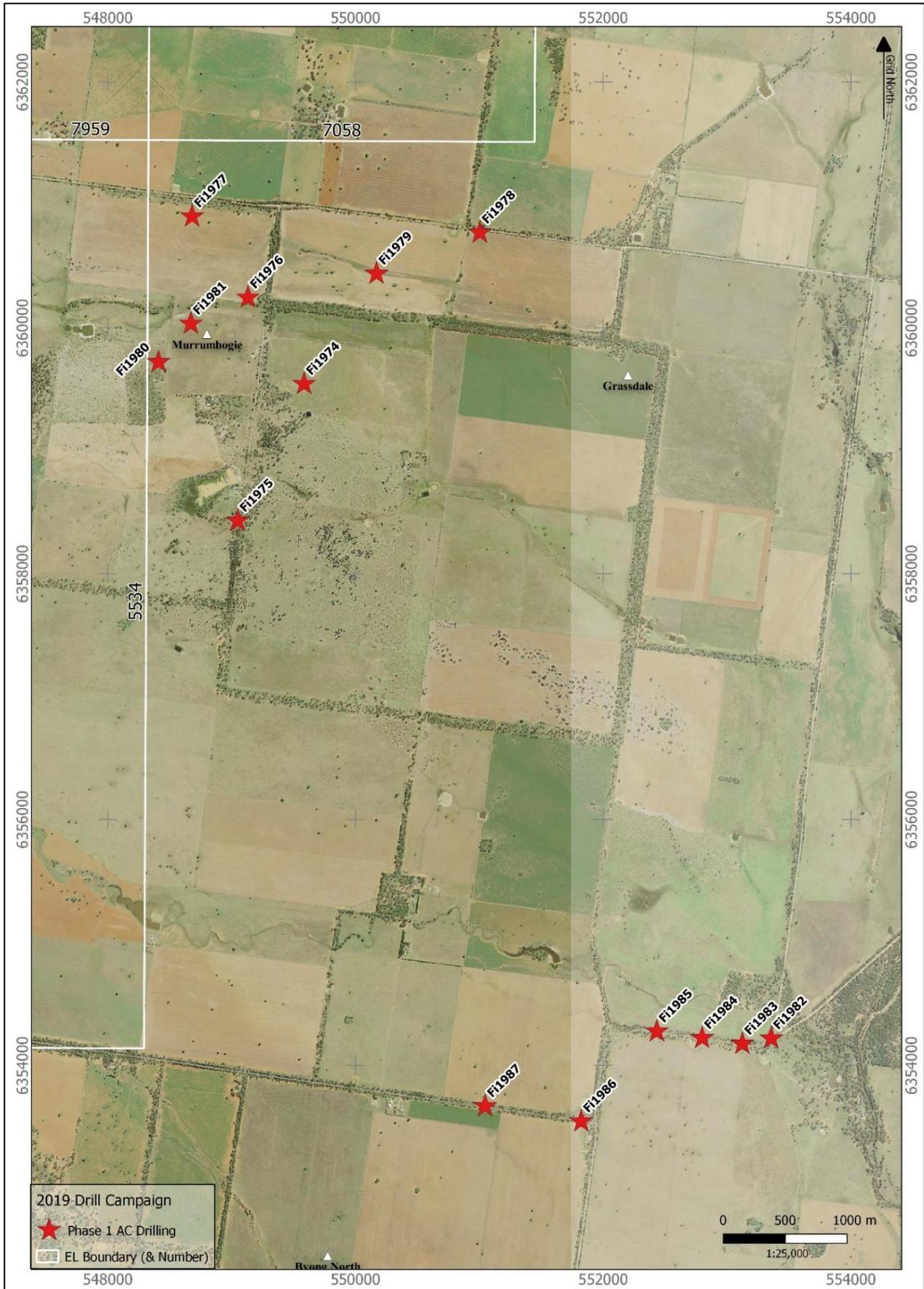
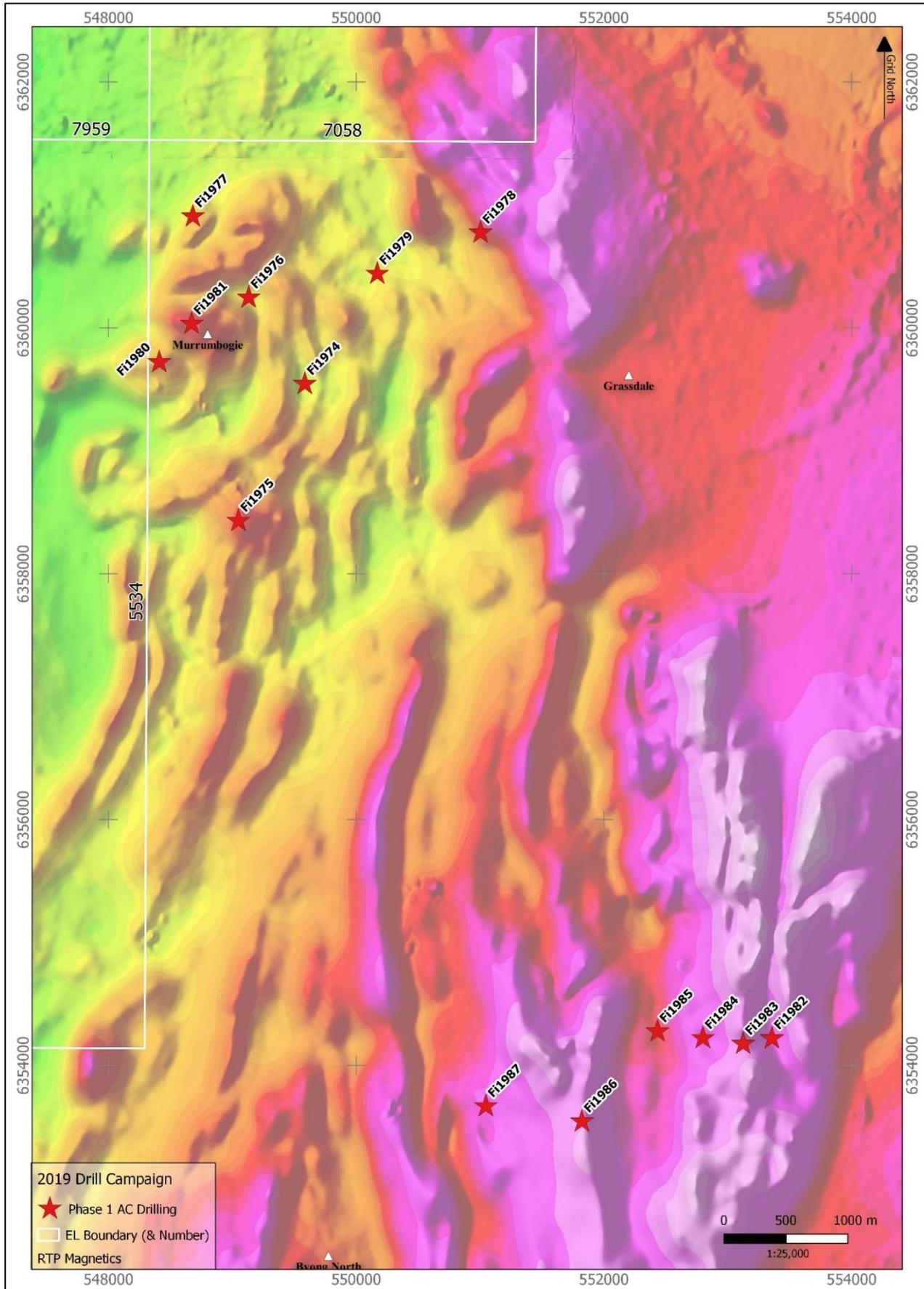


Figure 6: Southern Area Aircore Drill Hole Location Plan on RTP Magnetic Image



**Table 1: Significant Intercepts and RC Hole Details Northern Gold**

Hole ID	From (m)	To (m)	Interval (m)	Au (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)	Easting (GDA94)	North (GDA94)	Azi	Dip	Total Depth (m)
FI1961	20	22	2	0.15	98	14	66	542343	6371268	190	-60	84
FI1961	58	60	2	<0.01	1710	28	362	542343	6371268	190	-60	84
FI1960	38	40	2	0.02	44	119	41	542467	6371077	190	-60	81.5
FI1960	60	62	2	<0.01	141	49	1260	542467	6371077	190	-60	81.5

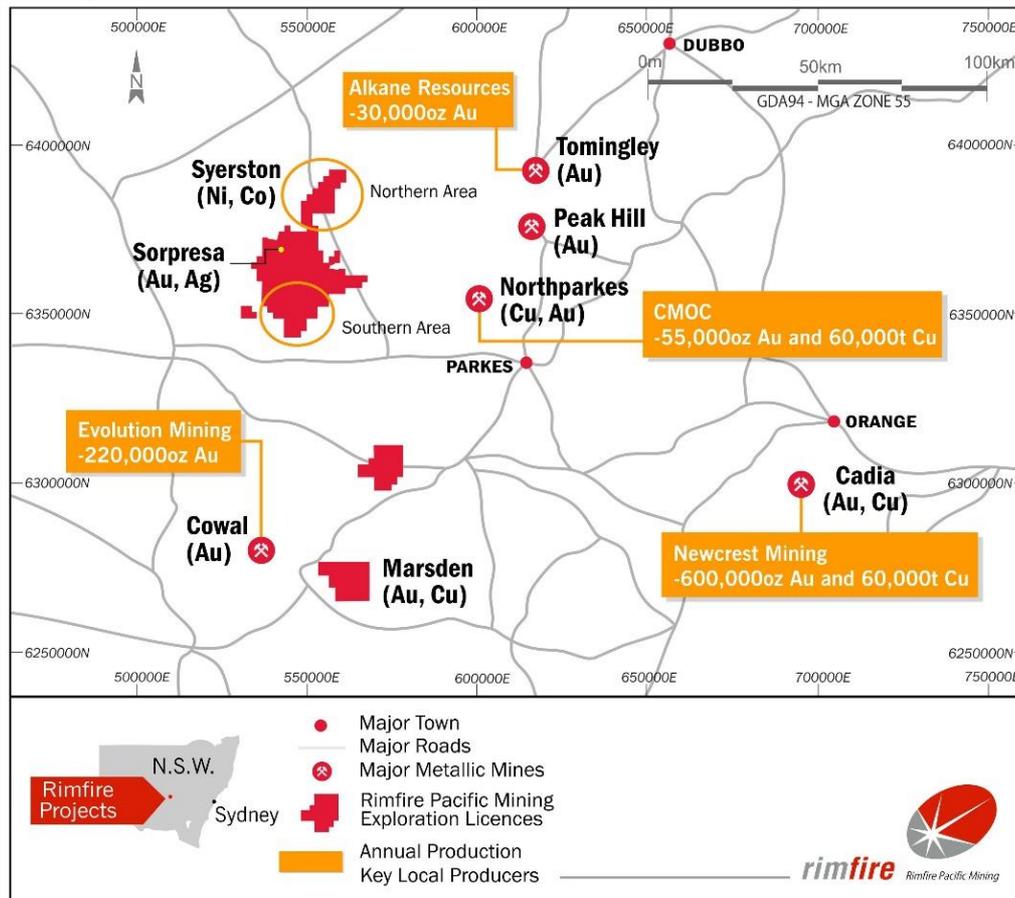
**Table 2: Aircore hole details Southern and Northern Areas**

Tenement ID	Location	Actual Hole ID	Actual Easting	Actual Northing	Mag Azi	Dip	Actual Depth
EL8401	Southern Area	Fi1986	551820	6353545	360	-90	74
EL8401	Southern Area	Fi1987	551050	6353670	360	-90	26
EL8401	Southern Area	Fi1983	553145	6354168	360	-90	33
EL8401	Southern Area	Fi1982	553357	6354220	360	-90	66
EL8401	Southern Area	Fi1984	552801	6354216	360	-90	36
EL8401	Southern Area	Fi1985	552428	6354269	360	-90	51
EL8401	Southern Area	Fi1975	549050	6358437	360	-90	48
EL8401	Southern Area	Fi1974	549585	6359540	360	-90	48
EL8401	Southern Area	Fi1979	550170	6360440	360	-90	33
EL8401	Southern Area	Fi1980	548410	6359720	360	-90	41
EL8401	Southern Area	Fi1981	548673	6360035	360	-90	52.5
EL8401	Southern Area	Fi1976	549132	6360246	360	-90	39
EL8401	Southern Area	Fi1978	550958	6360773	360	-90	42
EL8401	Southern Area	Fi1977	548688	6360912	360	-90	44.5
EL8542	Northern Area	Fi1971	556797	6385805	360	-90	21
EL8542	Northern Area	Fi1972	556600	6385813	360	-90	6
EL8542	Northern Area	Fi1968	556200	6386831	360	-90	28
EL8542	Northern Area	Fi1969	556398	6386800	360	-90	33
EL8542	Northern Area	Fi1970	556600	6386799	360	-90	52
EL8542	Northern Area	Fi1973	556799	6386795	360	-90	20
EL8542	Northern Area	Fi1963	556400	6387002	360	-90	64
EL8542	Northern Area	Fi1964	556000	6387200	360	-90	45
EL8542	Northern Area	Fi1965	556197	6387202	360	-90	47
EL8542	Northern Area	Fi1966	556401	6387201	360	-90	45
EL8542	Northern Area	Fi1967	556000	6387002	360	-90	47

## ABOUT RIMFIRE

Rimfire Pacific Mining (RIM) is an ASX listed resources exploration company with its major focus at Fifield in central NSW, located within the Lachlan Transverse Zone (LTZ). In 2011 the Company made a greenfields discovery, named “Sorpresa”, announcing a JORC Inferred and Indicated Maiden resource in 2014. The information provided in “About Rimfire” is available to view on the company’s website: [ASX Announcements](#).

**Figure 7: Location Plan Rimfire Exploration Licences and Project Areas**



Rimfire is exploring for a major copper / gold or gold mineralised system such as at Northparkes (Cu/Au) or Cowal (Au) on 915km<sup>2</sup> of Exploration Licences 100km west of Parkes in central NSW. Multiple prospects with potential for further gold discoveries exist in the area around Sorpresa which are part of Rimfire’s 681km<sup>2</sup> contiguous tenements. Rimfire also holds two exploration licences covering 234km<sup>2</sup>; located 40 to 60kms south of the Fifield Project, in a prospective area now part of a moratorium associated with the MinEx Cooperative Research Centre program ([minexcrc.com.au](http://minexcrc.com.au))

## Competent Persons Declarations

*The information in the report to which this statement is attached that relates to Exploration and Resource Results is based on information reviewed and/or compiled by Todd Axford who is deemed to be a Competent Person and is a Member of The Australasian Institute of Mining and Metallurgy.*

*Mr Axford has over 24 years’ experience in the mineral and mining industry. Mr Axford is employed by Geko-Co Pty Ltd and is a consulting geologist to the Company. Todd Axford has sufficient experience that is relevant to the style of mineralisation and type of deposits under consideration and to the activity being undertaken to qualify as a Competent Person as defined in the 2012 Edition of the ‘Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves’. Todd Axford consents to the inclusion of the matters based on the information in the form and context in which it appears.*

**Forward looking statements Disclaimer:**

*This document contains “forward looking statements” as defined or implied in common law and within the meaning of the Corporations Law. Such forward looking statements may include, without limitation, (1) estimates of future capital expenditure; (2) estimates of future cash costs; (3) statements regarding future exploration results and goals. Where the Company or any of its officers or Directors or representatives expresses an expectation or belief as to future events or results, such expectation or belief is expressed in good faith and the Company or its officers or Directors or representatives as the case may be, believe to have a reasonable basis for implying such an expectation or belief. However, forward looking statements are subject to risks, uncertainties and other factors, which could cause actual results to differ materially from future results expressed, projected or implied by such forward looking statements. Such risks include, but are not limited to, commodity price fluctuation, currency fluctuation, political and operational risks, governmental regulations and judicial outcomes, financial markets and availability of key personnel. The Company does not undertake any obligation to publicly release revisions to any “forward looking statement”, or to reflect the occurrence of unanticipated events, except as may be required under applicable securities laws.*

**Table 3: JORC Code Reporting Criteria**

**Section 1 Sampling Techniques and Data – Surface Rock Samples, Auger and Aircore Drilling**

Criteria	JORC Code explanation	Commentary
Sampling techniques	Nature and quality of sampling (e.g. 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.	Aircore sampling Each sample represents a scooped composite sample of cuttings generated via aircore drilling. Cuttings are collected in buckets from the cyclone for each metre drilled then tipped on a plastic sheet. A PVC spear is used to collect a sample from each pile of cuttings with three consecutive metres combined in a single calico sample bag. The nature of the sample generation and collection process means the samples should be considered as indicative of grade rather than representative of a precise grade.
	Include reference to measures taken to ensure sample representativity and the appropriate calibration of any measurement tools or systems used.	Blank sample and reference standards were inserted into the sample sequence.  RC sampling Each sample represents two metres drilled, with the samples collected direct in to prenumbered calico sample bags via a riffle splitter mounted below the cyclone on the drill rig. Blank sample and reference standards were inserted into the sample sequence.
	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 (e.g. ‘reverse circulation drilling was used to obtain 1 m samples from which 3 kg was	Industry standard preparation, including full sample pulverising prior to subsampling for assay, was undertaken for samples up to 3.6kg. For samples over 3.6kg the sample was split in the laboratory to generate as sample prior to pulverising. The field collected samples were typically in the order of 2 to 4kg,

Criteria	JORC Code explanation	Commentary
	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 (e.g. submarine nodules) may warrant disclosure of detailed information.	average 2.8kg.  50 g of pulverized sample was utilized for gold determination via Fire assay, and a smaller sub-sample utilised for multi-element assay via Four Acid Digestion with ICP-MS Finish.
<b>Drilling techniques</b>	Drill type (e.g. core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (e.g. 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).	RC drilling was completed for two holes utilising a face sampling hammer. Aircore drilling was completed with the same drill rig utilising an aircore drill bit.
<b>Drill sample recovery</b>	Method of recording and assessing core and chip sample recoveries and results assessed.	A visual comparison of sample size was made as drilling progressed. Observations were recorded by the sampler.
	Measures taken to maximise sample recovery and ensure representative nature of the samples.	Any noted variability was discussed with the driller with an aim to ensure consistency.
	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.	No relationship evident in current data.
<b>Logging</b>	Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.	Geological logging was completed on all holes drilled and is considered of appropriate detail to be utilised in future studies.
	Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.	Geological logging of chips/rock samples is qualitative by nature.
	The total length and percentage of the relevant intersections logged.	Not applicable
<b>Sub-sampling techniques and sample preparation</b>	If core, whether cut or sawn and whether quarter, half or all core taken.	Not applicable
	If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.	Sample was riffle split for RC and scooped from cuttings piles for aircore. No wet samples.

Criteria	JORC Code explanation	Commentary
	For all sample types, the nature, quality and appropriateness of the sample preparation technique.	Sample preparation followed industry standard practice and is considered appropriate (refer to sampling techniques section above).
	Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.	All sampling equipment was cleaned between 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.	Field duplicates, blanks and standards were inserted in the sample stream submitted to the commercial laboratory. No issues have been identified.
	Whether sample sizes are appropriate to the grain size of the material being sampled.	Sample sizes are considered suitable for a qualitative assessment for indications of mineralisation.
<b>Quality of assay data and laboratory tests</b>	The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.	Reported Gold was assayed via Fire Assay, which is considered a complete method. Reported multi-elements were assayed Four Acid Digestion with ICP-MS Finish, which is considered a complete method.
	For geophysical tools, spectrometers, handheld XRF instruments (fpXRF), etc, the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.	Not applicable
	Nature of quality control procedures adopted (e.g. standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e. lack of bias) and precision have been established.	Field duplicates, blanks and standards were inserted in the sample stream submitted to the commercial laboratory. No issues have been identified.
<b>Verification of sampling and assaying</b>	The verification of significant intersections by either independent or alternative company personnel.	All reported mineralised results have been reviewed by 2 company personnel.
	The use of twinned holes.	Not applicable
	Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.	Data was recorded on field sheets at the sample site. Field data was digitized and loaded via Datashed in to the site database. Assay results were reported in a digital format suitable for direct loading into the database via Datashed.

Criteria	JORC Code explanation	Commentary
	Discuss any adjustment to assay data.	No adjustments have been made.
	Specification of the grid system used.	GDA94 zone55.
	Quality and adequacy of topographic control.	Handheld GPS, which is suitable for the early stage and broad spacing of this exploration.
<b>Data spacing and distribution</b>	Data spacing for reporting of Exploration Results.	Data spacing is controlled by the interpretation of the prospect and potential orientation of mineralisation. For data discussed in this report spacing varies from 50 to 500+ metres.
	· 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.	Sampling is considered appropriate to identify 'broad' anomalous areas of potential mineralisation. Only RC samples are considered suitable to be used in resource/reserve estimation.
	· Whether sample compositing has been applied.	For aircore holes samples were composited from one metre to three metre intervals for assay.
<b>Orientation of data in relation to geological structure</b>	· Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.	Given the early stage of exploration it is not yet known if sample spacing and orientation achieves unbiased results.
	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.	Not known at this early stage.
<b>Sample security</b>	The measures taken to ensure sample security.	Samples double bagged and delivered directly to the laboratory by company personnel.
<b>Audits or reviews</b>	The results of any audits or reviews of sampling techniques and data.	No audits or reviews completed.

## Section 2 Reporting of Exploration Results

Criteria	JORC Code explanation	Commentary
<b>Mineral tenement and land tenure status</b>	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.	Reported results all from 100% Rimfire Pacific Mining NL tenements at Fifield NSW, which may include EL5534, EL6241, EL7058, EL7959, EL5565, EL8401, EL8542, EL8543, MC(L)305, MC(L)306. All samples were taken on Private Freehold and / or Common Land (prescribed for mining). No native title exists. The land is used primarily for grazing and cropping.

Criteria	JORC Code explanation	Commentary
	The security of the tenure held at the time of reporting along with any known impediments to obtaining a license to operate in the area.	The tenement is in good standing, and all work is conducted under specific approvals from NSW Department of Planning and Energy, Resources and Geoscience.
<b>Exploration done by other parties</b>	Acknowledgment and appraisal of exploration by other parties.	No results are relied on from other parties in this report.
<b>Geology</b>	Deposit type, geological setting and style of mineralisation.	The prospect areas lack geological exposure, available information indicates the bedrock geology across the project is a package of interbedded volcanoclastic and sedimentary rocks, with local intrusives. Remnant surface rock in the sample areas is often resistive, highly silicified and variably gossanous and brecciated. The deposit type/style of mineralisation is not known at this early stage.
<b>Drill hole Information</b>	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:	The data for the drilling discussed is included in figures and tables within the report.
	- easting and northing of the drill hole collar	
	- elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar	This data is included within the tables in the report.
	- dip and azimuth of the hole	
	- down hole length and interception depth	Not applicable
	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.	
<b>Data aggregation methods</b>	In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (e.g. cutting of high grades) and cut-off grades are usually Material and should be stated.	No data aggregation
	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.	Not applicable

Criteria	JORC Code explanation	Commentary
	The assumptions used for any reporting of metal equivalent values should be clearly stated.	Metal equivalents are not reported
<b>Relationship between mineralisation widths and intercept lengths</b>	These relationships are particularly important in the reporting of Exploration Results.	Not applicable
	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 (e.g. 'down hole length, true width not known').	Not applicable
<b>Diagrams</b>	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.	Included within the report (or as appendices)
<b>Balanced reporting</b>	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.	All significant results are included on the plans and cross-section. Where results are not specifically documented they are insignificant in terms of being below grades considered of value.
<b>Other substantive exploration data</b>	Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey 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.	A plan is included in the report showing the location of past exploration work in the vicinity of the northern gold prospect and reference made to past reporting of relevant results <a href="https://www.rimfire.com.au/site/PDF/2512_0/UpdateonPromisingNorthernGoldProspect">https://www.rimfire.com.au/site/PDF/2512_0/UpdateonPromisingNorthernGoldProspect</a> . There is currently no other substantive exploration data that is meaningful and material to report.
<b>Further work</b>	The nature and scale of planned further work (e.g. tests for lateral extensions or depth extensions or large-scale step-out drilling).	Further work is discussed in the document in relation to the exploration results.
	Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.	Not applicable at this stage