

Quarterly Report

For the quarter ended December 2019

Highlights

- H&S Consultants complete an update of the Sorpresa Mineral Resource Estimate (JORC 2012) with significant results including;
 - ✓ 0.92Mt @ 2.3g/t Au and 30g/t Ag for 67koz gold (Au) and 0.9Moz silver (Ag) at 1.0g/t Au cut-off grade.
- The Mineral Resource within the oxidation zone of mineralisation (within 50 m of surface on average) is;
 - ✓ 0.47Mt @ 2.4g/t Au and 22g/t Ag for 35.5koz gold and 0.3Moz silver at 1.0g/t Au cut-off grade.
- Rimfire completed the Phase 2 drilling program in December 2019;
 - ✓ Twenty-two Aircore holes totalling 783m drilled in the Southern Area,
 - ✓ The assay results of the Phase 2 drilling program are pending.
- The Company raised \$0.5m before costs from a sophisticated investor placement through Fresh Equities Pty. Ltd.

Rimfire Pacific Mining NL (ASX: RIM) ("the Company" or "Rimfire") is pleased to provide the December 2019 Quarterly Activity Report for activities undertaken at Fifield NSW.

The H&S Consultants updated Resource Estimate JORC (2012) for Sorpresa was completed and the average resource grade for gold at 1.0g/t Au cut-off has increased for the oxide and sulphide zones from 1.96g/t Au to 2.27g/t Au (ASX Announcement: Sopresa Resource Update 6Nov2019). These results support the Dual Strategy (ASX Announcement: Dual Strategy 25Sept2018) to assess options for a higher grade lower tonnage development option for Sorpresa.

Further resource growth potential remains at Sorpresa and various prospects within approximately 3km of the Sorpresa Resource. The evaluation of these opportunities is continuing with current focus at Northern Gold, Casuarina Valley and Fortuna with mineralisation considered part of a broader Intrusion Related Gold System (IRGS).

The Company also continues ongoing exploration in primarily the Southern Area for further discoveries including large scale porphyry style gold or copper/gold systems in interpreted Ordovician Volcanic geology.

Craig Riley, Managing Director at Rimfire states:

"During the last quarter the company was able to complete a Resource Estimate update for the Sorpresa Resource that now includes all drilling done on the project. This data will allow completion of pit optimisation studies and reassessment of options for the monetisation of this asset whilst we continue to execute field programs focussed on discovery of significant mineralisation within the Rimfires Exploration Licences in the Fifield area."



Health, Safety, Environment and Community

Health and Safety

There were no Health or Safety related incidents during the last quarter. The Total Year To Date performance for Minor Injuries, Medical Treatment Injuries and Lost Time Injuries remains zero.

To improve mobile phone connectivity a vehicle mounted mobile phone repeater unit was purchased and fitted to the Field Operations Managers vehicle. This unit provides a more robust communication for routine communication with landowners and capability for Rimfire to manage Emergency Response events.

Environment

All aircore drill sites from the recent Phase 1 (21 holes) and Phase 2 (22 holes) drilling programs have been rehabilitated with routine ongoing monitoring of these sites to be undertaken in accordance with company environmental rehabilitation processes. The drilling sites of the 2 RC drill hole sites from Phase 1 drilling have been rehabilitated although the PVC collars have been capped with final rehabilitation deferred at this stage.

There was extensive work done on fire hazard risk management including

- Ensuring towable fire fighter is serviced and full of water at all times.
- ✓ Removal of debri around company owned fence boundaries to ensure fire breaks are clear
- Ensuring good vehicle access around company owned fence boundaries for emergency access
- Consultation with local Landholders prior to accessing properties when high fire risk days are forecast to defer work activities or implement additional fire riks management controls.
- ✓ Training of some Rimfire casual field staff and contractors on safe operating procedures for Rimfire fire fighter trailers and equipment.

Community

In preparation for undertaking and during execution of drilling activities there has been landowner or landholder consultation and coordination meetings for 29 properties. During the Phase 1 and Phase 2 drilling programs there was daily communication with landholders to ensure company activities had minimal impact on farmers. There were no problems encountered with property landholders or landowners during the recent drilling programs.

A company representative also spent $\frac{1}{2}$ day assisting the Tuallamore Show Society in venue preparation for the Jimmy Barnes Drought Concert Fundraiser.



Field Project Activity

The Fifield project main activities in the 3 month period to 31st December 2019 have been focused on rehabilation of Phase 1 drilling program activities, planning for Phase 2 drilling program, execution of the Phase 2 drilling program and completion of Phase 2 drilling program rehabilitation. Planning preparation for drilling activities includes securing NSW Government approvals, Landholder Access Agreements, selection and scheduling of contractors to support drilling program activities at the Northern Area, Southern Area and Northern Gold Projects.

There has also been ongoing routine submittal of Annual Technical Reports (under IMER standards) to NSW Department of Planning, Industry and Environment – Resources and Geoscience to meet government compliance requirements for Rimfire's Exploration Licences.

Sorpresa Resource Estimation Details

H&S Consultants Pty Limited was engaged by Rimfire Pacific Mining NL to provide an update of their earlier 2014 maiden Sorpresa Au / Ag Mineral Resource Estimate. The update to the resource estimate was requested by Rimfire to allow inclusion of further drilling data and better quantify higher grade gold mineralisation.

Resources for Sorpresa are reported at separate cut-off grades for gold and silver (1.0 g/t Au and 85 g/t Ag) with material above both cut-off grades included in the gold resources. The silver / gold factor of 85g/t is based on a gold price of US\$1,494.10 per ounce and a silver price of US\$17.58 per ounce using the Comex spot prices on 21/10/2019. This shows that there is a significant quantity of silver-rich mineralisation outside of the greater than 1.0 g/t Au material above a similar value-equivalent silver cut-off grade ie 85 grams of silver has equivalence of 1 gram gold.

The Mineral Resource Estimate for silver indicates significant potential upside in zones of silver rich mineralisation which have modelled gold grades of below 1g/t and are not included in the gold only cut-off grade tonnages.

Posouros	Cut off	Catagory	Mt	Gra	ade	Contained Metal		
Resource	Cut on	Category	IVIL	g/t Au	g/t Ag	Koz Au	Moz Ag	
		Measured	0.162	2.88	53	15.0	0.28	
Gold	1.0 g/t Au	Indicated	0.532	2.08	25	35.7	0.44	
Gold	1.0 g/t Au	Inferred	0.228	2.25	22	16.5	0.16	
		Total	0.922	2.27	30	67.1	0.88	
	85 g/t Ag	Measured	0.027	0.50	171	0.4	0.15	
Silver		Indicated	0.509	0.37	133	6.0	2.18	
Silvei		Inferred	0.062	0.33	116	0.6	0.23	
		Total	0.598	0.37	133	7.1	2.56	
	1.0g/t Au & 85 g/t Ag	Measured	0.189	2.54	70	15.4	0.43	
		Indicated	1.041	1.25	78	41.7	2.62	
Combined		Inferred	0.289	1.84	42	17.1	0.39	
		Total	1.519	1.52	70	74.3	3.44	

Note: The figures in this table are rounded to include rounding errors and reflect precision of the estimates.





At 1.0 g/t Au cut-off grade, the new model (oxide and sulphide) has slightly higher tonnage and higher grades than the 2014 version, for a significant increase in contained ounces of gold.

Model	Mt	g/t Au	g/t Ag	Koz Au
2014	0.90	1.96	26.1	57
2018	0.92	2.27	28.4	67
18/14	102%	116%	109%	118%

A breakdown of the final estimate by class and oxidation is presented in Table below at 1.0 g/t Au cut-off grade. Measured resources comprise around 20% of the total resource with oxide and sulphide mineralisation occur in roughly equal quantities, with oxide having slightly higher average gold grades.

Resources by Resource Category and Rock Oxidation Type at 1.0 g.t Au cut-off grade

Category	Mt	g/t Au	g/t Ag	Bulk Density	Koz Au	Moz Ag
Measured	0.162	2.88	54	2.58	15.0	0.28
Indicated	0.532	2.08	26	2.63	35.7	0.44
Inferred	0.228	2.25	22	2.75	16.5	0.16
Oxide	0.468	2.36	22	2.55	35.5	0.34
Sulphide	0.454	2.17	37	2.76	31.6	0.54
Total	0.922	2.27	30	2.65	67.1	0.88

Note: The figures in this table are rounded to include rounding errors and reflect precision of the estimates.

Geological Interpretation

The Sorpresa Mineral Resource has a curved strike length of approximately 1,600m and almost (<1m) outcrops at surface and extend to approximately 230m below surface. Depth of oxidation averages around 50m but can vary from 15 to 75m. The Sorpresa mineralization is spatially associated with rhyolitic sills and is structurally hosted in a carbonaceous shale stratigraphic unit which dips variably (generally range 30 to 60 degrees) to the east. The geological interpretation of the main mineral deposit is based on identifying the host carbonaceous shale unit, which can be reliably traced over a distance of 1.6km. The primary mineralization is overprinted near surface by weathering and oxidation.

Sampling and Assaying Methodology

Sorpresa has been sampled via a mix of Reverse Circulation (RC) drilling (78%), Open Hole Hammer (OHH) drilling (19%) techniques and a limited number of diamond drill holes (3%), for a total of 42,670 metres. Nominal hole spacing in shallower oxide zone is typically $10m \times 10m$ although at Roadside is often closer at $5mE \times 10mN$ and extends up to $100m \times 60m$ in peripheral areas and / or at depth.



For most drill holes a 1 metre samples was riffle split and a 2 kg sample submitted and for expected lower grade material surrounding mineralization, the riffle split sample was composited by weight to produce a 2 kg composite over a 2 metre sample length for submission. For earlier drill holes, the 1 metre samples were mat rolled and 1kg measured off by weight with 2 metre composites via mixing the two 1kg sub-samples. Diamond core was either cut in half or crushed prior to being homogenized by the rolling method and subsampled.

Samples were analysed for gold by fire assay using a 50 gram charge; selected intervals have been submitted for Screen fire assay. Silver analysis has been by ICP using either an Aqua Regia or four acid digest methods. Over limit silver results were re-analysed by an appropriate ore grade method.

Sorpresa Resource Model Estimation

In the mineralised domains, gold was estimated by Multiple Indicator Kriging (MIK) and silver by Ordinary Kriging (OK) with no estimation of the un-mineralised zones. Ordinary Kriging estimates were also generated for gold in the mineralised domains as a check on the Multiple Indicator Kriging (MIK) estimates.

The model extent is smaller than the 2014 model because the mineralisation wireframes for 2018 do not extend as deep or as far east as previously. The same block size was used for both the MIK and OK models. The estimates used a three pass search strategy, as in 2014. Examination of the oxide boundary did not indicate a sharp break in grade across this interface, so this was treated as a soft boundary during estimation, as in 2014.

Resource Classification

The total mineralisation inventory was initially classified into Measured, Indicated or Inferred Resource using three estimation search passes. The octant search constraints ensure that at least 2 drill holes are required to estimate blocks in the first two passes and ensure large continuous areas of the same class.

The class 1 material was then examined and restricted to blocks where:

- The minimum distance to samples was less than or equal to half the search distance, i.e. ≤ 12.5m,
- The maximum number of samples was used in the OK estimate, i.e. 32 samples,
- The depth below surface was less than 100m,
- The blocks form contiguous areas, i.e. isolated blocks removed.

This procedure effectively restricted the class 1 blocks to areas within the recent close-spaced drilling. The mineral resources are classified as Measured, Indicated and Inferred based on the modified estimation search passes.

Resource Parameters and Modifying Factors

Density was assigned to the grade model using weathering, based on the oxidation surface provided by Rimfire. Density values of 2.77 and 2.55 t/m3 were assigned to the fresh (sulphide) and weathered (oxidised) lodes respectively.

Appropriate account has been taken of all relevant factors, including relative confidence in tonnage/grade estimates, reliability of input data, confidence in continuity of geology and metal values, quality, quantity and distribution of the data. The cut-off grades were chosen on the basis of providing reasonable prospects for eventual economic extraction given a number of factors including metallurgical testing, long term market prices, and conceptual mining and processing costs. The mining method is currently assumed to be open pit extraction.



Exploration Activities

The main activities for the last quarter include completion of Phase 1 drilling and assessment of results that support the IRGS model for the Northern Gold Prospect and collection of suitable samples for lithogeochemical classification in the Southern Area 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 were also been finalised with drilling undertaken in late November and early December 2019 following completion of routine NSW Government drilling approval processes and local landholder access arrangements.

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 program¹. 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 (ASX Announcement: Sorpresa Basin IRGS Model 15 July 2019). 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.

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 were suitable for lithogeochemical assessment to determine if the local bedrock is part of the Ordovician Macquarie Arc.





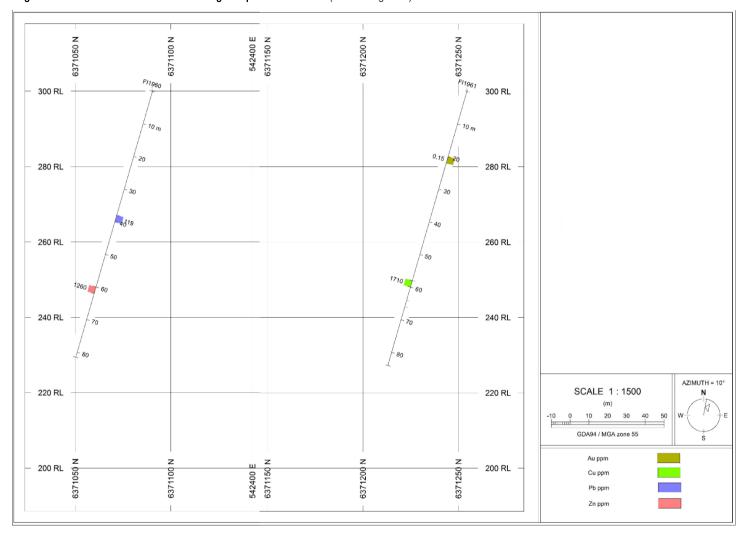
545000 540000 8401 8401 5534 2019 Drill Campaign Phase 1 RC Drilling EL Boundary (& Number) 535000 540000

Figure 1: Northern Gold Phase 1 Drilling Location Plan

Suite 411, 530 Little Collins St Melbourne VIC 3000 Phone +61 (0)3 9620 5866 rimfire@rimfire.com.au rimfire.com.au



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





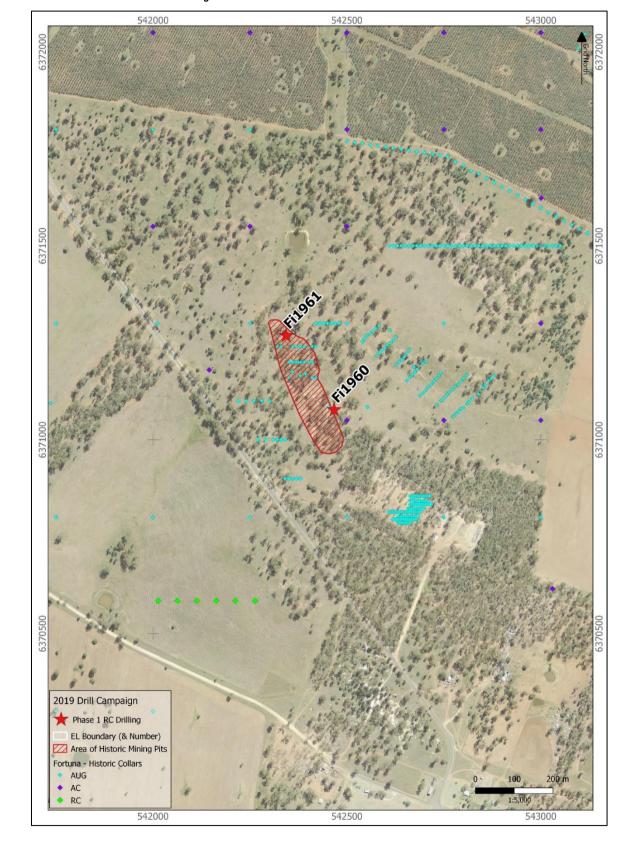


Figure 3: Northern Gold Recent Holes and Past Work



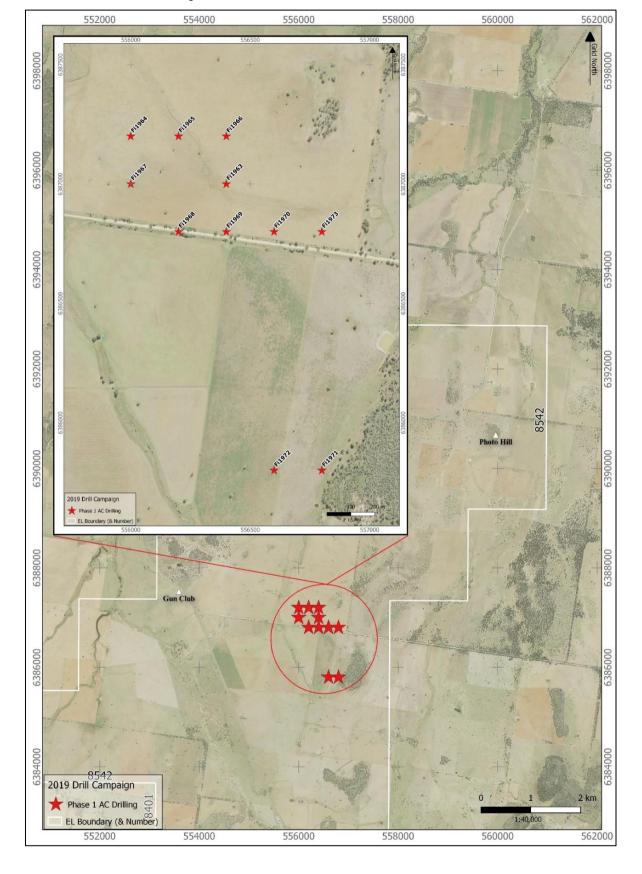


Figure 4: Northern Area Aircore Drill Hole and Location Plan



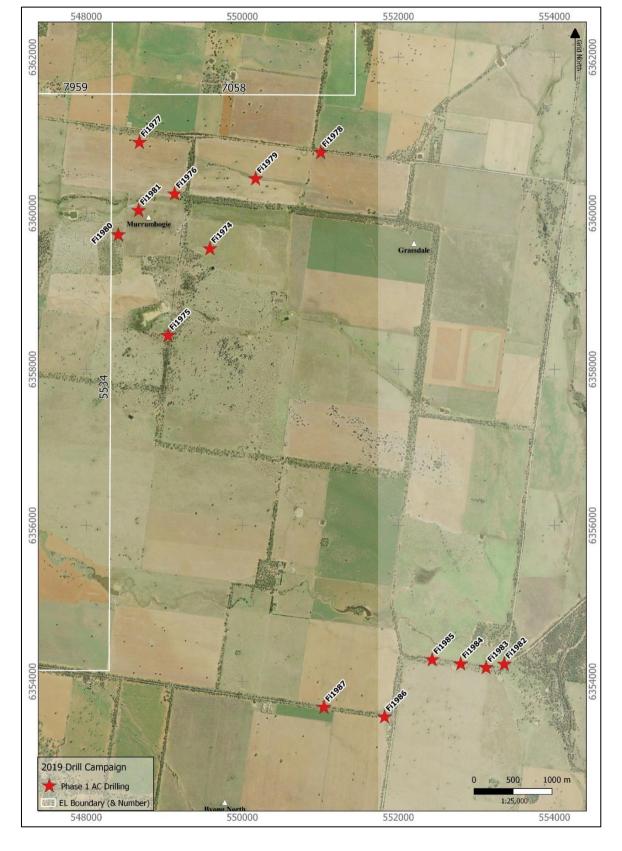


Figure 5: Southern Area Aircore Drill Hole Location Plan



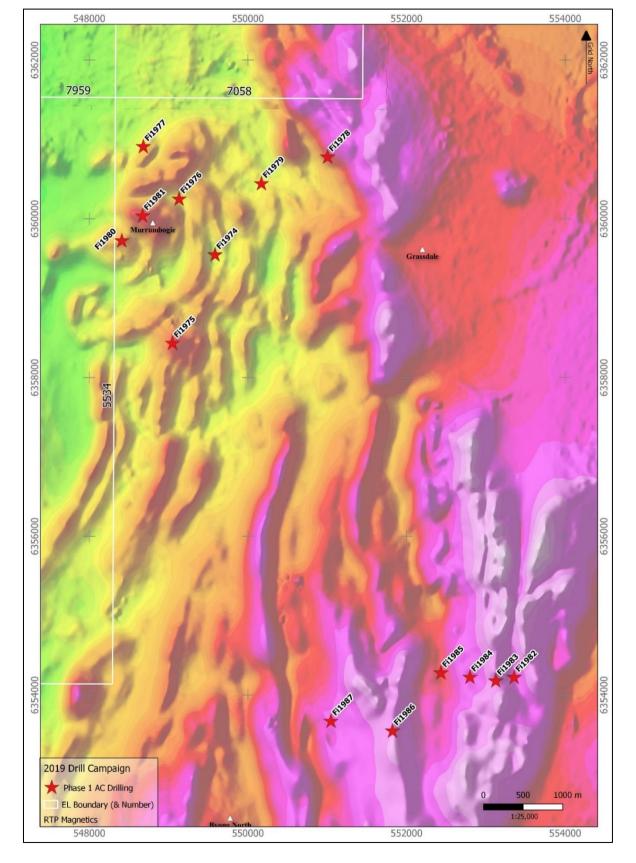


Figure 6: Southern Area Aircore Drill Hole Location Plan on RTP Magnetic Image



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)
FI 1961	20	22	2	0.15	98	14	66	542343	6371268	190	-60	84
FI 1961	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	Fi 1986	551820	6353545	360	-90	74
EL8401	Southern Area	Fi 1987	551050	6353670	360	-90	26
EL8401	Southern Area	Fi 1983	553145	6354168	360	-90	33
EL8401	Southern Area	Fi 1982	553357	6354220	360	-90	66
EL8401	Southern Area	Fi 1984	552801	6354216	360	-90	36
EL8401	Southern Area	Fi 1985	552428	6354269	360	-90	51
EL8401	Southern Area	Fi 1975	549050	6358437	360	-90	48
EL8401	Southern Area	Fi 1974	549585	6359540	360	-90	48
EL8401	Southern Area	Fi 1979	550170	6360440	360	-90	33
EL8401	Southern Area	Fi 1980	548410	6359720	360	-90	41
EL8401	Southern Area	Fi 1981	548673	6360035	360	-90	52.5
EL8401	Southern Area	Fi 1976	549132	6360246	360	-90	39
EL8401	Southern Area	Fi 1978	550958	6360773	360	-90	42
EL8401	Southern Area	Fi 1977	548688	6360912	360	-90	44.5
EL8542	Northern Area	Fi 1971	556797	6385805	360	-90	21
EL8542	Northern Area	Fi 1972	556600	6385813	360	-90	6
EL8542	Northern Area	Fi 1968	556200	6386831	360	-90	28
EL8542	Northern Area	Fi 1969	556398	6386800	360	-90	33
EL8542	Northern Area	Fi 1970	556600	6386799	360	-90	52
EL8542	Northern Area	Fi 1973	556799	6386795	360	-90	20
EL8542	Northern Area	Fi 1963	556400	6387002	360	-90	64
EL8542	Northern Area	Fi 1964	556000	6387200	360	-90	45
EL8542	Northern Area	Fi 1965	556197	6387202	360	-90	47
EL8542	Northern Area	Fi 1966	556401	6387201	360	-90	45
EL8542	Northern Area	Fi 1967	556000	6387002	360	-90	47



CORPORATE ACTIVITY

Cash, Capital Structure, Funding, Facilities and Investments

The Company's cash at bank at 31 December 20219 was \$0.5m. Exploration programs during the quarter and upcoming programs continue to be funded due to the placement of \$0.5m before costs to sophisticated investors during October 2019.

Table 2 - Changes in Capital Structure*

Security Class	30 September 2019	31 December 2019 (including Oct 19 placement)
Ordinary Shares on Issue (RIM)	1,353,158,438	1,509,408,438
Listed Options - 2.2 cents, expire 1 May 2020 (RIMOB)	131,140,518	131,140,518
Listed Options – 1.0 cents, expire 1 May 2020 (RIMOC)	277,540,365	433,790,365
Unlisted Options – Various Prices and Vesting Dates	74,000,000	74,000,000

The Company continues to actively manage costs with serving Non-Executive Directors during the quarter being paid fees for the January 2019 to March 2019 quarter only. Subsequent to the end of the Quarter the Company announced that RSM Australia Partners (RSM) has been appointed as auditor for the Company. This appointment follows the resignation of BDO East Coast Partnership (BDO), and ASIC's consent to the resignation in accordance with s329(5) of the Corporations Act 2001. The Company recently undertook an audit tender process in line with its policy regarding the regular review of its external auditor. The Company considered length of tenure and costs associated with the audit, with a view to reduce costs of the external auditor where possible. The Board believes that the appointment of RSM is in the best interests of the Company and its shareholders.

Commodity Pricing for the Quarter

During the December Quarter 2019 the gold price continues to appreciate, finishing the quarter with a 4% increase in value to USD 1,517.10 per ounce. The gold price continues to trade at greater than AUD 2,000 per ounce, trading at AUD 2,167 per ounce (using an exchange rate USD:AUD of 0.70). Gold and Silver Prices from www.kitco.com in New York in USD and Copper and Cobalt Prices from LME.com in USD.

Commodity	Price USD 30	Price USD 31	Dec 2019 Quarter	Price USD
	Sep 2019	Dec 2019	% change	28 Jan 2020
Gold (oz)	1,463.80	1,517.10	3.6%	1,567.60
Silver (oz)	16.91	17.82	5.4%	17.43
Copper (t)	5,609	6,116	9.0%	5,778



Appendix A - Rimfire Exploration Licences

Below is a listing of the exploration licences held by Rimfire Pacific Mining NL as at 31 December 2019.

No.	Licence	Location	Interest	Interest Aquired / Farmed In During Quarter	Interest Aquired / Farmed Out During Quarter
1	EL7959	Fifield	100%	-	-
2	EL5534	Fifield	100%	-	-
3	EL7058	Fifield	100%	-	-
4	M(C)L305	Fifield	100%	-	-
5	M(C)L306	Fifield	100%	-	-
6	EL8401	Fifield	100%	-	-
7	EL5565	Fifield	100%	-	-
8	EL8543	Fifield	100%	-	-
9	EL8542	Fifield	100%	-	-
10	EL6241	Fifield	100%	-	-
11	EL8804	Greater Lake Cowal Area	100%	-	-
12	EL8805	Greater Lake Cowal Area	100%	-	-
13	EL 5958*	Broken Hill	10%	-	-

^{*} Perilya manages the tenement with Rimfire being free carried

This announcement is authorised for release to the market by the Board of Directors of Rimfire Pacific Mining NL.

For further information please contact:

Craig Riley, Managing Director +61 3 9620 5866



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 & Indicated Maiden resource in 2014. The information provided in "About Rimfire" is available to view on the company's website: ASX Announcements.

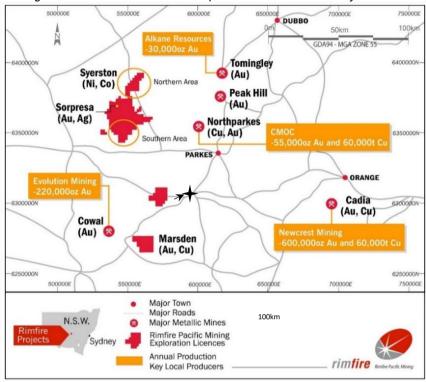


Figure 1: Location Plan Rimfire Exploration Licences and Project Areas

Rimfire is exploring for a major copper / gold or gold mineralised system such as at Northparkes (Cu/Au) or Cowal (Au) on 915km² of Exploration Licences 100km west of Parkes in central NSW. Rimfire also holds two exploration licences covering 234km²; located 40 to 60kms south of the Fifield Project, in an area now part of a moratorium associated with the MinEx Cooperative Research Centre program (minexcrc.com.au)

Competent Persons Declarations - Mineral Resources - Sorpresa

The information in this Report that relates to Mineral Resources for the Sorpresa deposit is based on information compiled by Mr Arnold van der Heyden, who is a Member and Chartered Professional (Geology) of the Australian Institute of Mining and Metallurgy and Managing Director of H&S Consultants Pty Ltd. Mr van der Heyden has sufficient experience relevant to the style of mineralization and type of deposit 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' (JORC Code). Mr van der Heyden consents to the inclusion in this report of the matters based on the information in the form and context in which it appears.

<u>Competent Persons Declarations – Exploration Results</u>

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.