

# QUARTERLY ACTIVITIES REPORT for the Period Ending 31 March 2020

# Highlights:

- Placement to raise \$2m plus Mining and Exploration Joint Ventures with NT Bullion Ltd over the Northern Project Area in Tennant Creek (announced post Quarter end)
- New high-grade gold and copper results returned from Mauretania, now part of the Mining JV with NT Bullion whereby Emmerson receives a 12% gross revenue gold royalty
- Progress continues toward refurbishment of the Territory Resources-owned Warrego mill including a Letter of Intent with a new mining contractor – Emmerson to receive royalty streams across several gold projects
- Significant drill targets identified at our NSW Kiola project with similarities to Cadia and Boda deposits
- Planning advanced for NSW Government co-funded drilling at Kiola in June quarter 2020
- Given the global economic circumstances, budget reductions have been implemented that include reduced fees and salaries for employees and Directors of up to 50%.

TENNANT CREEK: building a pipeline of high-value mines for toll treatment with funds generated by this low risk, royalty/profit share stream to fund high impact exploration

#### **Northern Project Area**

Emmerson enters a strategic alliance with NT Bullion Ltd over the Northern Project Area (NPA) in Tennant Creek (ASX announcement 28 April 2020) (Figure 1). Key points as follows:

- NT Bullion to invest \$2m in Emmerson shares priced at a minimum of 14c per share, representing a
  premium of 100% to the 5-day VWAP on the day of announcement
- Formation of an Exploration Earn-In and Joint Venture whereby NT Bullion funds the next \$5m of exploration over the NPA including an advanced payment of \$1m and the refund of exploration costs of approximately \$0.4m pertaining to the last drill program at our high-grade Mauretania gold discovery
- Mining Joint Venture covering the NPA (excluding Edna Beryl) with Emmerson to receive:
  - a 12% gross revenue gold royalty from the Mauretania and Jasper Hills projects, plus 25% profit share of associated cobalt and copper
  - a 25% profit share from any other mine developed within the NPA in exchange for NT Bullion undertaking the development, mining and processing
- Exploration Earn-in and Joint Venture over the Tennant Creek NPA aims to accelerate the discovery
  of new deposits and extensions to existing gold, cobalt and copper projects, including Mauretania,
  Jasper Hills, Hermitage, Golden Slipper, Marathon and Troy
- NT Bullion purchase of the Peko Tails project and agreement with Elmore Ltd (ASX: ELE) aims to
  establish a portable modular mill at the Peko site. This provides an independent processing option
  for any projects within the NPA, including our recent, high grade discovery at Mauretania.



## **Mauretania Project (Figure 2)**

Emmerson's Mauretania project in the NPA will now form part of the NT Bullion Mining JV whereby Emmerson is refunded the costs of the last round of drilling (approximately \$0.4m) and will receive a 12% gold gross revenue royalty.

Re-assayed results from Mauretania drilling has confirmed the overall homogenous grade characteristics from the upper, oxide zone of diamond drill hole MTDD006 (ASX Announcement 5 February 2020) which returned:

- 15m at 2.28g/t gold from 57m including:
  - o 3m at 5.24g/t gold
  - o 2m at 4.23g/t gold
- 1m at 5.75g/t gold and 1.39% copper from 76m
- 21m at 2.4g/t gold from 81m including:
  - 5m at 4.11 g/t gold
  - o 1m at 9.25g/t gold

A new thick zone of copper and gold from diamond drill hole MTDD007 returned:

- 22m at 0.84% copper, 0.04g/t gold and 5.2g/t silver from 88m including:
  - o 2m at 1.56% copper and 0.14g/t gold
  - o 2m at 3.11% copper

The lower primary gold target of 1m at 3.35g/t gold from 209m is associated with chlorite-hematite-quartz ironstone. Both this drilling and our latest structural interpretation (which is reflected by the trends in the gold geochemistry in Figure 2) suggests there is excellent potential to follow this mineralisation to the northwest.

Drill hole MTDD008 returned 9m at 1.25g/t gold from 92m which is associated with brecciated hematite ironstone. This again highlights the potential for extensions of the gold mineralisation to the northwest.

Mauretania is a greenfields discovery identified from recognising that high-grade gold and copper are associated with hematite ironstones that have largely gone undetected up until Emmerson's entry in the Tennant Creek Mineral Field in 2008. The hallmarks of our discoveries at Edna Beryl, Goanna, Monitor and now Mauretania include the exceptional grade of both copper and gold and their association with hematite dominant ironstones.

NSW: exploring for large copper-gold porphyry deposits by adopting modern exploration techniques and technology in a prospective region - Figure 3

#### Whatling Hill (Fifield project) (Figure 4)

A deep diamond drill hole was only partially completed due to encountering drilling difficulties resulting in early termination due to unacceptable deviation. Although well above the target zone, several intervals of visible sulphides (pyrite and chalcopyrite) were encountered. These were associated with epidote, chlorite and sparse garnet, magnetite and actinolite alteration with best assays of 0.8m at 0.33% copper.

# Kiola Project (Figure 5)

A planned minimum 2,000m of diamond drilling was deferred due to the COVID-19 issues and is now set to commence in late May.

Kiola is one of Emmerson's higher ranked, early stage gold-copper projects in the NSW portfolio and is centred on the 15km<sup>2</sup> Kiola Geochemical Zone (KGZ). It encompasses favourable Ordovician age rocks that display anomalously high gold and copper geochemistry plus historic workings.



Recent work has confirmed that the KGZ contains many of the attributes of world class porphyry gold-copper mineralisation found in the region including the Cadia-Ridgeway deposits. The KGZ is divided into a northern area centred on the Nasdaq skarn, and a southern area around the South Pole, Kiola and Right Hand Creek mine.

Some 15-line km of Induced Polarisation (IP) geophysics collected in late 2019 has reinforced the depth potential of the target areas, particularly when combined with the geochemistry, age dates, intrusion fertility plots and geology – keeping in mind there is limited exposure of the Ordovician stratigraphy due to soil cover.

#### Nasdaq Skarn

Shallow historic drilling in this area has intersected copper, gold and base metals within calc-silicates (i.e. skarn mineralisation (ASX Announcement 12 March 2020). Some of the better results include:

- 8m at 2.52g/t gold and 0.19% copper including 3m at 6.43g/t gold from 32m (drill hole CWC002);
- 13m at 0.26g/t gold from 44m (CWC022);
- 17m at 0.19g/t gold and 0.17% copper from the surface (CWC016); and
- 13m at 0.17g/t gold from the surface (CWC017).

Emmerson's field program has included additional soil and rock chip geochemistry, with rock chip samples up to 19.6g/t gold and 2.16% copper. Recent age dating of a nearby monzonite intrusion places this project in the similar, fertile age bracket to other world class deposits in the belt including Newcrest's Cadia-Ridgeway deposits. Furthermore, the aeromagnetics suggests these late Ordovician monzonite intrusions occur not only at Nasdaq, but also Dollys North and South Pole.

Three drill holes to be completed on the IP line 6217785N (prop 1, 2 & 5) are designed to test different targets including mineralisation associated with skarn-pyrite alteration and interpreted underlying porphyry style gold-copper. Noting that skarns have been instrumental to the discovery of many porphyry deposits in the world including the Cadia-Ridgeway deposits.

#### South Pole, Kiola, Right Hand Creek

This southern area features highly anomalous geochemistry (up to 19% copper and 4.5g/t gold in rock chips, ASX Announcement 12 March 2020), several historic mines, extensive geophysical anomalies (both chargeable and resistive) across consecutive lines of IP geophysics, plus favourable geology and alteration.

Strong zones of shearing outside of the large magnetic anomaly at South Pole plus the associated calcsilicate skarn to the north, suggests some similarities to the Nasdaq area but also potential for structurally controlled, vein style copper-gold mineralisation peripheral to a porphyry system.

A single drill hole (prop 4) will test a zone of highly elevated copper and gold geochemistry, nearby historic copper workings at the Right Hand Creek Mine, plus a target at 400m derived from the application of chlorite or green rock proximity indicators. This technique utilises the trace element signature from the alteration minerals to determine a likely radius or vector to the heat source. Thus, this drill hole tests for shear or vein style mineralisation peripheral to an interpreted Ordovician intrusive complex.

A further hole will test a highly chargeable IP geophysical anomaly, interpreted to be coincident with sulphides that are present across all three IP lines and are close to an interpreted Ordovician Kiola lies within the highly ranked Molong Belt which hosts the Alkane Resources' Boda discovery and Newcrest Mining's world class Cadia-Ridgeway deposit.

#### Kadungle Project

As announced Emmerson advise (ASX announcement 14 April 2020) that the status of the Kadungle tenement EL 6226, one of four tenements which constitute the Fifield ground holding in NSW, is uncertain and currently the subject of an internal investigation.



# CORPORATE: an emerging gold royalty stream to support self-funded exploration

Emmerson announced a change in Company Secretary post the end of the Quarter with Paul Mason taking the role effective 6 April 2020. The Board acknowledges and thanks the valuable contribution Trevor Verran has made during his tenure and wish him all the very best in his future endeavours.

In responding to the impact of COVID-19 and the Company's inability to conduct exploration activities, including the high impact drilling at Emmerson's Kiola project in NSW, budget reductions have been implemented that include reduced salaries and fees for employees and Directors of up to 50%.

The Company issued 5,000,000 options to employees and agreed to issue 8,500,000 options to Directors under the Company's Incentive Option Scheme. The options offered to employees will have an exercise price of 14 cents and will expire 31 December 2023. Options to be issued to Directors, including the Managing Director, will be subject to approval of shareholders at the Company's next General Meeting in accordance with ASX Listing Rules. The Company paid salary, superannuation and fees totalling \$125,000 to the Managing Director and Non-Executive Directors during the quarter.

## **Key Activities Expected in June 2020 Quarter**

- Formation of the new JV Management Committee with NT Bullion to plan activities within the Tennant Creek NPA – likely to include further drilling at Mauretania and other drill targets, subject to further negotiation pertaining to drill clearance with the Traditional Owners
- On ground activities at the Warrego Mill to include reconfiguring the gravity and leach circuits ahead of commissioning – subject to working within the NT COVID-19 regulations
- Drilling at Kiola in NSW to test compelling new porphyry copper-gold targets subject to Emmerson and NSW COVID-19 restrictions

#### **Announcements**

30/01/2020	Quarterly Activities Report
30/01/2020	Quarterly Cashflow Report
05/02/2020	New High Grade Gold and Copper at Tennant Creek
12/03/2020	Multiple Gold-Copper Drill Targets at Kiola NSW
12/03/2020	Investor Update Presentation
12/03/2020	Half Year Accounts

Mr. Rob Bills

Managing Director and Chief Executive Officer EMMERSON RESOURCES LIMITED



#### **About Emmerson**

Emmerson Resources Limited (Emmerson) is fast tracking exploration across five exciting early-stage gold-copper projects in NSW. In partnership with Kenex Limited (now Duke Exploration), these projects were identified from the application of 2D and 3D predictive targeting models – aimed at increasing the probability of discovery. The highly prospective Macquarie Arc in NSW hosts >80Mozs gold and >13Mt copper with these resources heavily weighted to areas of outcrop or limited cover. Emmerson's five exploration projects contain many attributes of the known deposits within the Macquarie Arc but remain underexplored due to historical impediments, including an overlying cover (farmlands and younger rocks) and a lack of exploration.

In addition, Emmerson has a commanding landholding position and is exploring the Tennant Creek Mineral Field (TCMF), one of Australia's highest-grade gold and copper fields producing over 5.5 Mozs of gold and 470,000 tonnes of copper from deposits including Warrego, White Devil, Orlando, Gecko, Chariot, and Golden Forty. These high-grade deposits are highly valuable exploration targets, and to date, discoveries include high-grade gold at Edna Beryl and Mauretania, plus copper-gold at Goanna and Monitor. These are the first discoveries in the TCMF for over two decades.

Emmerson has formed a strategic alliance with Territory Resources to build a central mill in Tennant Creek to support the processing from Emmerson's small gold mines and other third-party feed. This alliance also extends to a \$5m earn-in by Territory Resources over Emmerson's southern tenements (where ERM is the Operator and Manager) plus a Mining Joint Venture over a portfolio of Emmerson's small mines that is on a 75/25 profit share basis, except for the Edna Beryl and Chariot mines which respectively have a 12% and 6% gold production royalty.

## **About Territory Resources**

Territory Resources Limited (Territory) explores, mines and rails iron ore and exports out of the Darwin Port in the Northern Territory (NT), Australia. The company primarily holds an interest in the Frances Creek mine, located south of Darwin,(NT). The Company also has interests in the Mt Bundey project and the Yarram project both located in the NT. The Company was incorporated in 2002 and is based in West Perth, Australia. As of February 28, 2018, Territory operates as a subsidiary of Gold Valley Holdings Pty Ltd. Territory is currently expanding its operations into gold projects in the NT, including advancing the +300koz gold project at Nobles Nob and Juno mines in Tennant Creek.

#### **Regulatory Information**

The Company does not suggest that economic mineralisation is contained in the untested areas, the information contained relating to historical drilling records have been compiled, reviewed and verified as best as the Company was able. As outlined in this announcement, the Company is planning further drilling programs to understand the geology, structure and potential of the untested areas. The Company cautions investors against using this announcement solely as a basis for investment decisions without regard for this disclaimer.

#### **Competency Statement**

The information in this report which relates to Tennant Creek Exploration Results is based on information compiled by Mr Steve Russell BSc, Applied Geology (Hons), MAIG, MSEG. Mr Russell is a Member of the Australian Institute of Geoscientists and has sufficient experience which is relevant to the style of mineralisation and types of deposits under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined in the 2004 edition and the 2012 edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. Mr Russell is a casual employee of the Company and consents to the inclusion in this report of the matters based on his information in the form and context in which it appears.

The information in this report, which relates to NSW Projects Exploration Results is based on information compiled by Dr Ana Liza Cuison, MAIG, MSEG. Dr Cuison is a Member of the Australian Institute of Geoscientists and has sufficient experience which is relevant to the style of mineralisation and types of deposits under consideration and to the activity which she is undertaking to qualify as a Competent Person as defined in the 2004 edition and the 2012 edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. Dr Cuison is a full-time employee of the



Company and consents to the inclusion in this report of the matters based on her information in the form and context in which it appears.

## **Cautionary Statement**

The Exploration Targets described in the 'Mining & Processing' section are conceptual in nature. It must be noted that that there has been insufficient exploration to estimate a Mineral Resource and it is uncertain if further exploration will result in the estimation of a Mineral Resource.

### **Forward-Looking Statements**

This document may include forward-looking statements. Forward-looking statements include, but are not limited to, statements concerning Emmerson Resources Limited's planned exploration program and other statements that are not historical facts. When used in this document, the words such as "could," "plan," "expect," "intend," "may", "potential," "should," and similar expressions are forward-looking statements. Although Emmerson believes that its expectations reflected in these forward-looking statements are reasonable, such statements involve risks and uncertainties and no assurance can be given that further exploration will result in the estimation of a Mineral Resource.

For further information, please contact:

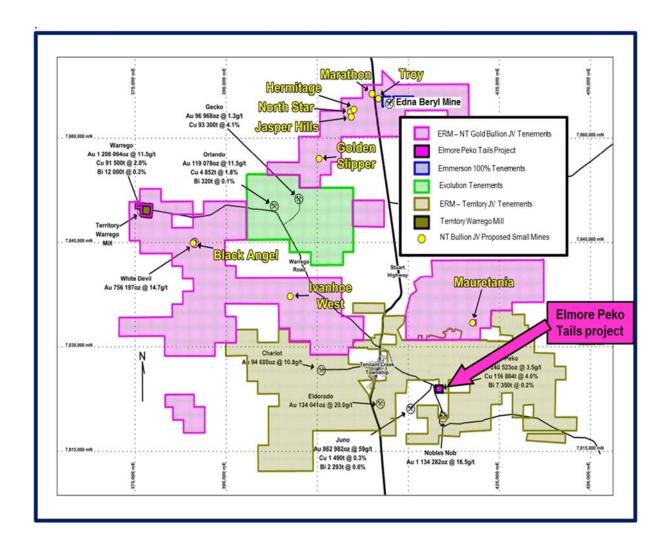
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This release has been authorised by the Board of Emmerson Resources Limited

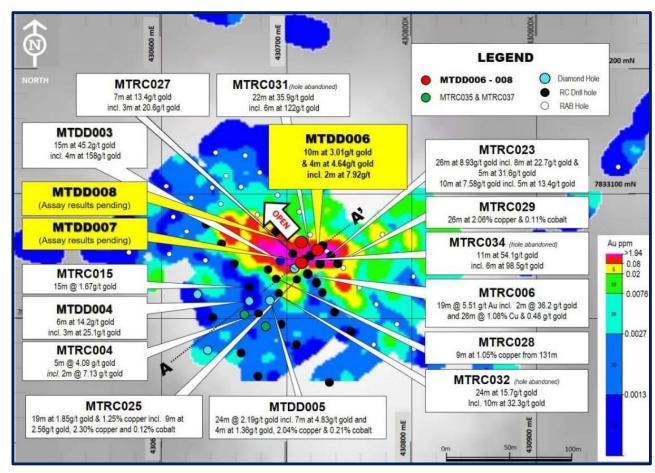




**Figure 1.** Map of the Emmerson Tennant Creek tenements showing the area (purple) of the two new JV's (Small Mines & Exploration JV's) with NT Bullion. Plus potential new gold mines (yellow dots covered by the Small Mines JV). Note location of the NT Bullion and Elmore Peko Tails project and nearby Emmerson discovery at Mauretania. Southern Project Area (khaki) is covered by the Small Mines and Exploration JV's with Territory Resources.

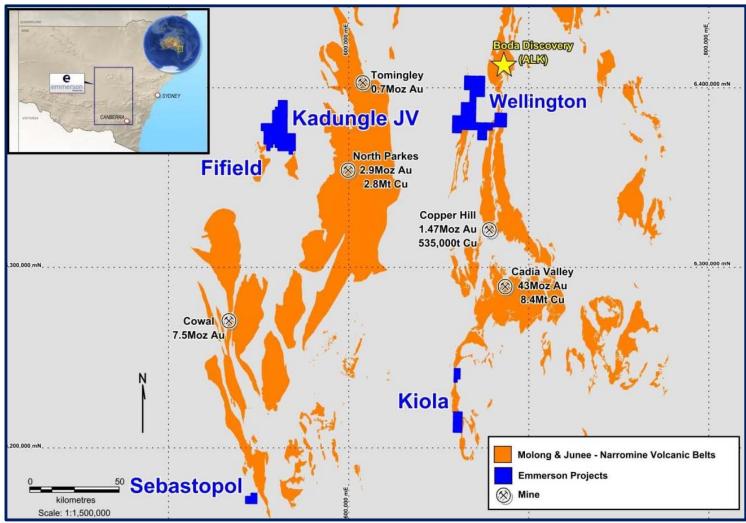
Note: quoted resources from historical deposits from Ahmad, M., Wygralak, A.S. and Ferenczi, P.A. (1999). Gold deposits of the Northern Territory 2<sup>nd</sup> ed. Darwin: Northern Territory Geological Survey, p.60





**Figure 2:** Location previous drilling (black & white dots) diamond drill holes (blue dots) MTDD006 diamond drill hole (red dot) and RC holes (green dots) on a background of gold geochemistry in ppm (colours). Also showing the recent drilling (MTDD007, MTDD008, MTRC035 and MTRC037).





**Figure 3**. Location of Emmerson's NSW Projects (Lachlan Resources). The background is the regional magnetic image, with orange indicating the various segments of the Macquarie Arc.



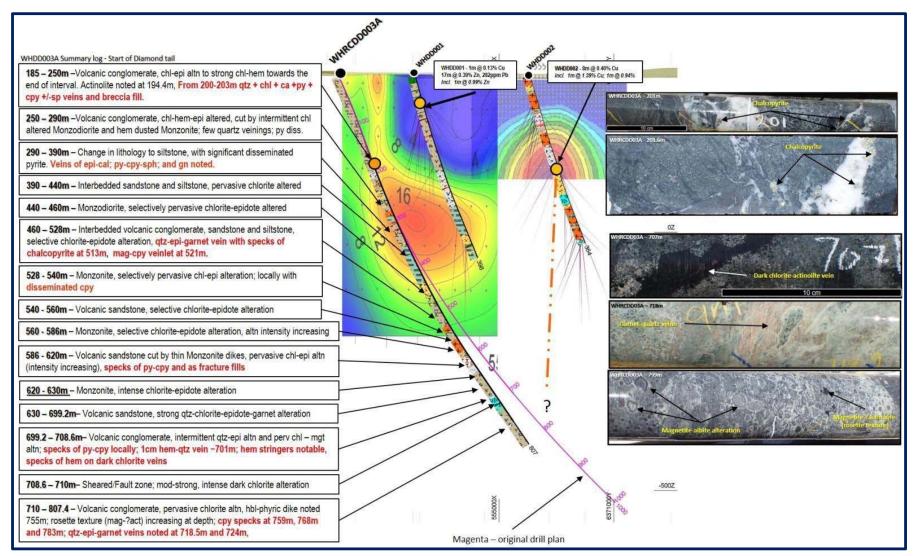
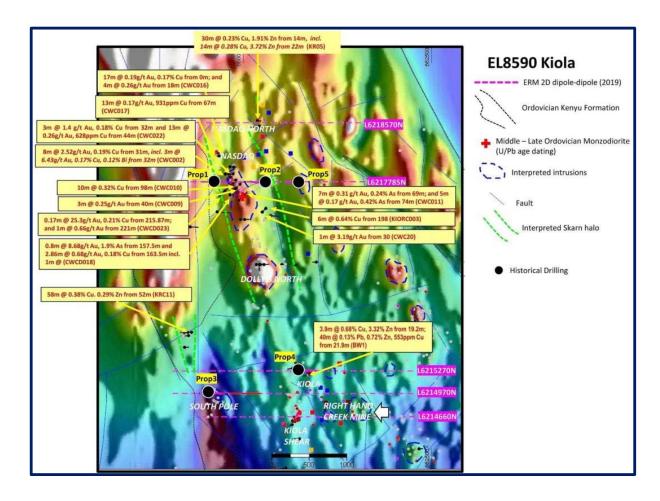


Figure 4: Whatling Hill project WHRCDD003A summary log, cross-section with actual drill hole trace and planned drill hole trace (magenta line).





**Figure 5:** Plan view of the Kiola Geochemical Zone (KGZ) showing historic drill results at the Nasdaq skarn, and the southern South Pole, Kiola, Right Hand Creek Mine. Note the background image is the Reduced to Pole Magnetics, with red-white colour outlining interpreted Ordovician age intrusives



**Table 1:** Mauretania prospect MTDD006 significant drill hole intersections.

Hole ID	East (MGA94_53)	North (MGA94_53)	RL AHD	Dip (deg)	AZI mag (deg)	From (m)	To (m)	Width (m)	Au (g/t)	Ag (g/t)	Bi (ppm)	Cu (ppm)	Co (ppm)	Fe (%)	Pb (ppm)	Zn (ppm)	Sb (ppm)	Se (ppm)
						52	58	6	1.44	18.5	83.7	889	58.4	17.2	246	176	7.23	2.17
						62	72	10	3.01	23.6	0.15%	1182	104	17.3	390	295	10.7	5.50
			329.3		000 Incl.	76	77	1	11.9	96.7	0.11%	1.27%	0.14%	20.1	0.91%	925	15.9	2.00
		7833053.00		.3 -90		82	88	6	2.43	2.53	827	409	36.5	14.5	174	74.2	6.69	1.33
MTDD006	430719.00					94	98	4	4.64	14.5	0.94%	635	33.5	12.6	1730	29.3	9.07	5.00
						96	98	2	7.92	16.8	1.57%	1046	44.2	13.3	3174	31.0	13.2	9.00
						101	102	1	7.19	3.36	0.16%	355	84.8	19.0	265	48.0	5.00	2.00
						106	107	1	1.32	5.74	743	1274	74.6	26.7	132	111	4.63	4.00
						113	114	1	5.11	0.64	463	129	38.3	14.9	206	202	1.84	2.00
						153	154	1	1.91	18.0	133	113	6.80	11.6	38.0	11.0	1.45	66.0
						188	189	1	1.47	2.10	240	405	109	20.5	19.0	302	1.49	56.0

#### Note:

- Samples are half HQ<sub>3</sub> or NQ<sub>3</sub> diamond core samples.
   Gold analysis method by 50g fire assay charge with ICP-OES finish.
   Multi element analysis method by 4 acid digest & ICP-OES, ICP-MS finish.
- (4) Intersections are reported as downhole lengths and not true widths.
   (5) Minimum cut off 1g/t Au. No maximum cut off.
- (6) Minimum cut off 1% Cu. No maximum cut off.
- (7) Maximum internal dilution is no greater than 1 metre.
- (8) Assay intersections are not reported as weighted averages.



Table 2. Mauretania drilling collar location data

Hole ID	East (MGA94_53)	North (MGA94_53)	RL AHD	Dip (deg)	AZI mag (deg)	Depth (m)	Drill Date	Drill Type	Tenement
MTRC035	430685	7833039	329	-70	116	138	18/10/2019	RC	EL28761
MTDD008	430681	7833009	330	-74	77.7	174.4	19/10/2019	RC/DDH	EL28761
MTRC037	430696	7833009	331	-75	116	204	20/10/2019	RC	EL28761
MTDD007	430698	7833037	332	-90	77.7	221.5	21/10/2019	RC/DDH	EL28761

 Table 3. Whatling Hill drilling collar location data

	Hole ID	East (MGA94_55)	North (MGA94_55)	RL AHD	Dip (deg)	AZI mag (deg)	Depth (m)	Drill Date	Drill Type	Tenement
W	/HRCDD003A	554819	6371435	307	-65	112	807.4	19/11/2019	RC/DDH	EL8464



The exploration results contained within the above company release are in accordance with the guidelines of *The Australasian Code for the Reporting of Exploration Results, Mineral Resources and Ore Reserves* (the JORC Code, 2012).

Appendix 1 - Section 1 Sampling Techniques and Data – Fifield Project – Whatling Hill Prospect – Precollar RC/Diamond Drilling WHRCDD003A

Criteria	JORC Code explanation	Commentary
Sampling techniques	<ul> <li>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 downhole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling.</li> <li>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</li> <li>Aspects of the determination of mineralisation that are Material to the Public Report.</li> <li>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.</li> </ul>	<ul> <li>WHRCDD003A was drilled with pre-collar Reverse Circulation (RC) and diamond core tail to obtain high quality samples that was logged for lithological, structural, geotechnical, density and other attributes.</li> <li>RC chips from WHRCDD003A 3m composite samples from the cyclone were riffle split on site to obtain 2.5–3.0kg. The samples were pulverised (ALS Lab in Orange) to produce a 30g sub sample for analysis by four acid digest with an ICP-AES finish &amp; Fire Assay (Au)- AAS finish.</li> <li>Diamond core was NQ2 size. Core was sampled on geological intervals (0.5 m to 1.5 m), cut into half core using a standard brick saw. Sample weights approximately 3.0kg were crushed, dried and pulverised (Lab) to produce a 30g sub sample for analysis by four acid digest with an ICP-AES finish &amp; Fire Assay (Au)- AAA finish.</li> </ul>
Drilling techniques	<ul> <li>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).</li> </ul>	<ul> <li>WHRCDD03A has been drilled with:         <ul> <li>RC from collar to 185.5m</li> <li>NQ2 from 185 to 807.4m</li> </ul> </li> <li>NQ2 core diameter is 45.0mm.</li> <li>Standard inner tube has been used for the diamond core drilling.</li> <li>No triple tube has been used on WHRCDD003A</li> <li>The core was oriented using downhole core orientation equipment provided by the drilling company.</li> </ul>
Drill sample recovery	<ul> <li>Method of recording and assessing core and chip sample recoveries and results assessed.</li> <li>Measures taken to maximise sample recovery and ensure representative nature of the samples.</li> <li>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.</li> </ul>	<ul> <li>Recoveries are considered satisfactory</li> <li>The core recovery for WHRCDD003A is 98.4%.</li> <li>RQD measurements and core loss has been recorded on the original diamond logging sheets and retained for reference.</li> <li>Emmerson do not consider that there is evidence for sample bias that may have occurred due to preferential loss/gain of fine/coarse material.</li> </ul>
Logging	<ul> <li>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.</li> <li>Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.</li> <li>The total length and percentage of the relevant intersections logged.</li> </ul>	<ul> <li>Standard operating procedures are employed for logging WHRCDD003A</li> <li>Drill hole logging data is directly entered into field laptop computer. Standardised code were used for lithology, oxidation, alteration, presence of sulphide information are recorded.</li> <li>Structural logging records orientation of veins, fractures and lithological contacts.</li> <li>Information on structure type, dip, dip direction, alpha angle, beta angle, texture, shape, roughness and fill material is stored in the structure table of the database.</li> <li>RQD logging records core lengths, recovery, hardness and weathering.</li> </ul>



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.	Pulverised material not required by the laboratory (pulps) including duplicate samples were returned, and are held in Orange, NSW
Quality of assay data and laboratory tests	<ul> <li>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</li> <li>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.</li> <li>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.</li> </ul>	<ul> <li>Field QC procedures involve the use of certified reference material (CRM's) as assay standards, and ERM include blanks, duplicates.</li> <li>Certified reference material or blanks are inserted at least every 20 samples for diamond and RC sampling.</li> <li>Standards are purchased from Certified Reference Material manufacture companies. Standards were purchased in foil lined packets of between 60g and 100g.</li> <li>Core samples were cut at RME yard in Orange, NSW using automatic core saw.</li> <li>All samples were collected from the same side of the core.</li> <li>Half core samples were submitted for analysis.</li> <li>Average sample weight was 3 to 4kgs for the diamond, and 1 to 2kgs for the RC.</li> <li>Samples were delivered to ALS Chemex, in Orange NSW.</li> <li>The sample preparation of diamond core follows industry best practice in sample preparation involving oven drying, coarse crushing of the half core sample down to ~10mm followed by pulverisation of the entire sample to a grind size of 85% passing 75 micron.</li> <li>Laboratory checks include CRM's and/or in-house controls, blanks, splits, and replicates that are analysed with each batch of samples submitted. These QC results are reported along with sample values in the final analytical report.</li> <li>QAQC data is uploaded with the sample values into ERM's database A QAQC database is created as a separate table in the database and includes all field and internal laboratory QC samples.</li> <li>QC data is reported through a series of control charts for analysis and interpretation by the Exploration Manager</li> <li>The sample sizes are considered to be appropriate to correctly represent the sulfide mineralization at Whatling Hill exploration target on the style of mineralisation (Porphyry Cu-Au), the thickness and mineral consistency of the intersection(s).</li> </ul>
Verification of sampling and assaying	<ul> <li>The verification of significant intersections by either independent or alternative company personnel.</li> <li>The use of twinned holes.</li> <li>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</li> <li>Discuss any adjustment to assay data.</li> </ul>	Original sample data sheets and files have been retained and were used to validate the contents of the company's database against the original assay (when received), down hole survey results and the geological logging.     No twin drillholes have been completed at the Whatling Hill prospect     Drill Hole Data including: meta data, orientation methods, any gear left in the drill hole, lithological, mineral, structural, geotechnical, density, survey, sampling, magnetic susceptibility is collected and



Criteria	JORC Code explanation	Commentary
		entered directly into an excel spread sheet using drop down codes.
Location of data points	<ul> <li>Accuracy and quality of surveys used to locate drillholes (collar and downhole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.</li> <li>Specification of the grid system used.</li> <li>Quality and adequacy of topographic control.</li> </ul>	<ul> <li>WHRCDD003A collar was surveyed using handheld GPS.</li> <li>Collar survey accuracy is +/- 3m for easting, northing and elevation coordinates.</li> <li>Co-ordinate system GDA_94, Zone 55.</li> <li>Downhole survey measurements were collected every 15-30m for diamond drill hole using Real time Reflex Gyro.</li> <li>The collar location and elevation has been picked up DGPS.</li> </ul>
Data spacing and distribution	<ul> <li>Data spacing for reporting of Exploration Results.</li> <li>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.</li> <li>Whether sample compositing has been applied.</li> </ul>	<ul> <li>Diamond core sampling is generally defined by geological characteristics and controlled by alteration and lithological boundaries.</li> <li>Significant intersections are shown in Table 1 within the main text.</li> </ul>
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.	WHRCDD003A drilling was angled, drilled from NW to SE to target the downdip extension of mineralized zones intersected from previous drilling.
Sample security	The measures taken to ensure sample security.	<ul> <li>Diamond core was cut down the core orientation line and same side half core is collected for assay.</li> <li>Core length minimum is 0.5m and maximum 1.5m.</li> <li>Sampling intervals are determined by geological changes.</li> <li>RC samples were selected, bagged and labelled by site geologist and field assistants.</li> <li>They are placed in sealed polyweave bags for transport to the assay laboratory (ALS Lab in Orange).</li> <li>Digital data is emailed to the Exploration Manager informing that the samples have been dispatched to the lab.</li> <li>The assay laboratory confirms that all samples have been received and that no damage has occurred during transport.</li> <li>Sample receipt is logged into NSW Emmerson sample ledger.</li> <li>While samples are being prepared in the laboratory they are considered to be secure.</li> <li>Tracking is available through the internet and designed by the laboratory to track the progress of batches of samples.</li> </ul>
Audits or reviews	The results of any audits or reviews of sampling techniques and data.	No formal audit has been completed on the samples being reported.

# Section 2 Reporting of Exploration Results – Fifield Project – Whatling Hill Prospect – Precollar RC/Diamond Drilling WHRCDD003A

Criteria	JORC Code explanation	Commentary
Mineral tenement and land tenure status	<ul> <li>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.</li> <li>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.</li> </ul>	<ul> <li>Whatling Hill prospect is within EL8464.</li> <li>EL8464 Fifield is located just south of Tullamore and approximately 50 NW of Northparkes Cu-Au mine.</li> <li>EL8464 is situated on map sheet SI55-3 Narromine 1:250,000</li> <li>EL8464 is consists of wheat paddocks and minor grazing paddocks.</li> <li>The tenement is 100% held by Lachlan Resources (Emmerson Resources).</li> </ul>



Criteria	JORC Code explanation	Commentary
		EL8464 is in good standing and no known impediments exist.
Exploration done by other parties	Acknowledgment and appraisal of exploration by other parties.	<ul> <li>North Broken Hill Ltd explored the area in 1978 for tungsten and skarn.</li> <li>Shell Company of Australia from 1981 - 1983 explored for tin-tungsten skarn deposits associated with the Gobondery granite; porphyry copper and base metal mineralisation associated with monzonite-diorite; tin-quartz- tourmaline mineralisation hosted by Girilambone sediments; and gold-base metal stockwork mineralisation hosted in Ordovician sediments.</li> <li>North Mining Ltd (North) explored the district for Porphyry Cu-Au deposits within the Ordovician Volcanics from 1992 – 1995.</li> <li>Clancy Exploration Ltd held the ground through EL6534 from 2006 – 2014 targeting Ordovician Porphyry Cu-Au system.</li> </ul>
Drillhole information	Deposit type, geological setting and style of mineralisation.  A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drillholes:  a easting and northing of the drillhole collar elevation or RL of the drillhole collar of pand azimuth of the hole downhole length and interception depth	<ul> <li>Since the 1960's, the area inside EL8464 has been actively explored for a variety of metals including Cu,Au, Pb, Zn, Pt, Ni, Sn and W. Several historical small mining operations have been conducted in the tenement, Allandale and Gobondery. The Allandale Cu mine is a vein associated copper occurrence. The Gobondery Fe Mine was described as a small high-grade hematite deposit on the eastern contact of the Devonian Gobondery Granite.EL8464 lies within an inlier of Ordovician arc interpreted to have been rifted west off the Northparkes Igneous Complex. The main Ordovician arc is dominated by the Raggatt Volcanics consists of andesitic to trachyandesitic lavas and volcaniclastic rocks. The Devonian Gobondery granite in the western part of the tenement outcrops as a prominent hill.</li> <li>The Ordovician Raggatt Volcanics have been tentatively correlated with the Womblin and Goonumbla Volcanics at Northparkes.</li> <li>The style of mineralization of the Whatling Hill prospect is considered to be Porphyry Cu-Au. Elsewhere in the tenement, other porphyry prospects are Forrest View and Allandale prospect.</li> <li>The Raggatt Volcanics are considered to be highly prospective to host Porphyry Cu Au, supported by the Late Ordovician age, and the occurrence of alteration associated with this style of mineralization. i.e. pervasive epidote and chlorite alteration, locally with disseminated magnetite, presence of magnetite veins and quartz-magnetite veins with clots of malachite.</li> <li>Field based exploration has been complemented by cutting edge science which has included analysis of the alteration (trace and rare earth elements within the outer green rock or epidote/chlorite zone) where initial findings suggests geochemical footprints of a porphyry system. Moreover, age dating of the monzonite intrusion within the Raggatt Volcanics yielded a Late Ordovician to Early Silurian age — all part of the University of Tasmania CODES ARC Linkage project.</li> <li>Drill hole information, collar details and intersections</li></ul>



Criteria	JORC Code explanation	Commentary
Data aggregation methods	<ul> <li>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.</li> <li>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.</li> <li>The assumptions used for any reporting of metal equivalent values should be clearly stated.</li> </ul>	<ul> <li>Mineralized core intersections are reported as down hole intervals and not weighted averages.</li> <li>The results discussed are exploration results only and no allowance is made for recovery losses that may occur should mining eventually result, nor metallurgical flow sheet considerations.</li> <li>Cut-off grades applied to results reported in this report are:         <ul> <li>Minimum cut-off of 0.1 g/t Au. No maximum cut-off.</li> <li>Minimum cut-off of 0.1 % Cu. No maximum cut-off.</li> <li>Minimum cut-off of 0.1 % Zn (1000ppm). No maximum cut-off.</li> </ul> </li> <li>Maximum internal dilution of 2 metres for the diamond drilling</li> <li>No metal equivalent values reported</li> </ul>
Relationship between mineralisation widths and intercept lengths	<ul> <li>These relationships are particularly important in the reporting of Exploration Results.</li> <li>If the geometry of the mineralisation with respect to the drillhole angle is known, its nature should be reported.</li> <li>If it is not known and only the downhole lengths are reported, there should be a clear statement to this effect (eg 'downhole length, true width not known').</li> </ul>	WHRCDD003A was designed and drilled aimed at being as perpendicular as possible to the interpreted mineralised zone.      Intersections are reported as downhole lengths and not true width.
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 drillhole collar locations and appropriate sectional views.	Refer to Figures in body of text.
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.	Drill hole information, collar details and intersections is provided in the main text, Table 3
Other substantive exploration data	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.	Geotechnical logging was carried out recovery, RQD and number of defects (per interval). Information on structure type, dip, dip direction, alpha angle, beta angle, texture, shape, roughness and fill material was stored in the structure table of the database.      Magnetic susceptibility was carried out 100% for WHRCDD003A      Thin section samples have been collected to assist in refining the geological model.
Further work	<ul> <li>The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).</li> <li>Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.</li> </ul>	Further work on the reported exploration targets will involve:



# Mining Tenements Held at 31 March 2020 (Northern Territory, Australia)

Tenement	Name	Interest	Tenement	Name	Interest	Tenement	Name	Interest
EL10114	McDougall	100%						
EL10124	Speedway	100%	MCC334	Estralita Group	100%	MLA29530	Wiso	100%
EL10313	Kodiak	100%	MCC340	The Trump	100%	MLA29531	Wiso	100%
EL10406	Montana	100%	MCC341	The Trump	100%	MLA29532	Wiso	100%
EL23285	Corridor 2	100%	MCC344	Mt Samuel	100%	MLC127	Peko East Ext 4	100%
EL23286	Corridor 3	100%	MCC364	Estralita	100%	MLC129	Peko Sth- East	100%
EL23905	Jackie	100%	MCC365	Estralita	100%	MLC130	Golden Forty	100%
EL26594	Bills	100%	MCC366	Estralita	100%	MLC131	Golden Forty	100%
EL26787	Rising Ridge	100%	MCC524	Gibbet	100%	MLC132	Golden Forty	100%
EL27011	Snappy Gum	100%	MCC55	Mondeuse	100%	MLC133	Golden Forty	100%
EL27408	Grizzly	100%	MCC56	Shiraz	100%	MLC134	Golden Forty	100%
EL27537	Chappell	100%	MCC57	Mondeuse	100%	MLC135	Golden Forty	100%
EL27538	Mercury	100%	MCC66	Golden Forty	100%	MLC136	Golden Forty	100%
EL28601	Malbec	100%	MCC67	Golden Forty	100%	MLC137	Golden Forty	100%
EL28602	Red Bluff	100%	MCC9	Eldorado	100%	MLC138	Golden Forty	100%
EL28603	White Devil	100%	MCC925	Brolga	100%	MLC139	Golden Forty	100%
EL28618	Comstock	100%	MCC926	Brolga	100%	MLC140	Golden Forty	100%
EL28760	Delta	100%	ML22284	Billy Boy	100%	MLC141	Golden Forty	100%
EL28761	Quartz Hill	100%	ML23216	Chariot	100%	MLC142	Golden Forty	100%
EL28775	Trinity	100%	ML23969	Gecko	100%	MLC143	Golden Forty	100%
EL28776	Whippet	100%	ML30096	Malbec	100%	MLC144	Golden Forty	100%
EL30167	Dolomite	100%	ML30177	North Star	100%	MLC146	Golden Forty	100%
EL30584	Juno North	100%	ML30322	Verdot	100%	MLC147	Golden Forty	100%
EL30748	Battery Hill	100%	ML30620	Kia Ora	100%	MLC148	Golden Forty	100%
EL9403	Jess	100%	ML30623	Pinnacles	100%	MLC149	Golden Forty	100%
EL9958	Running Bear	100%	ML30636	Jacqueline the	100%	MLC15	Eldorado 4	100%
ELA27539	Telegraph	100%	ML30716	Comstock	100%	MLC16	Eldorado 5	100%
ELA27902	Lynx	100%	ML30742	Black Cat	100%	MLC176	Chariot	100%
ELA30505	Golden East	100%	ML30743	True Blue	100%	MLC177	Chariot	100%
ELA30746	Mule	100%	ML30620	Kia Ora	100%	MLC18	West Gibbet	100%
ELA30749	Mary Anne	100%	ML30623	Pinnacles	100%	MLC182	Riesling	100%
ELA31355	Mt Samuel	100%	ML30636	Jacqueline the	100%	MLC183	Riesling	100%
EMP31008	Warrego Gravel 1	100%	ML30870	Rising Star	100%	MLC184	Riesling	100%
MA23236	Udall Road	100%	ML30872	The Extension	100%	MLC21	Gecko	100%
MA30798	Little Ben	100%	ML30893	Troy	100%	MLC253	Mulga 1	100%
MCC174	Mt Samuel	0%	ML30909	Archimedes	100%	MLC254	Mulga 1	100%
MCC203	Galway	100%	ML30911	Wolseley	100%	MLC255	Mulga 1	100%
MCC211	Shamrock	100%	ML30912	Ivanhoe	100%	MLC256	Mulga 2	100%
MCC212	Mt Samuel	85%	ML30938	EXP195	100%	MLC257	Mulga 2	100%
MCC239	West Peko	100%	ML30945	Metallic Hill	100%	MLC258	Mulga 2	100%
MCC240	West Peko	100%	ML31074	Rocky Range	100%	MLC259	Mulga 2	100%
MCC287	Mt Samuel	0%	ML31123	Gibbet1	100%	MLC260	Mulga 2	100%
MCC288	Mt Samuel	0%	ML31651	White Devil	100%	MLC261	Mulga 2	100%
MCC308	Mt Samuel	85%	MLA29527	Wiso	100%	MLC32	Golden Forty	100%
MCC316	The Trump	100%	MLA29528	Wiso	100%	MLC342	Tinto	100%
MCC317	The Trump	100%	MLA29529	Wiso	100%	MLC343	Rocky Range	100%



# Mining Tenements Held at 31 March 2020 (Northern Territory, Australia)

Tenement	Name	Interest	Tenement	Name	Interest	Tenement	Name	Interest
	5 . 5	4000/	N. 0.400	2	1000/	0500	T00.1	1000/
MLC344	Rocky Range	100%	MLC408	Comet	100%	MLC596	TC8 Lease	100%
MLC345	Rocky Range	100%	MLC409	Comet	100%	MLC597	TC8 Lease	100%
MLC346	Rocky Range	100%	MLC432	Mulga 1	100%	MLC598	Golden Forty	100%
MLC347	Golden Forty	100%	MLC48	Tinto	100%	MLC599	Mt Samuel	85%
MLC348	Brolga	100%	MLC49	Mt Samual	100%	MLC601	TC8 Lease	100%
MLC349	Brolga	100%	MLC498	Eldorado	100%	MLC602	TC8 Lease	100%
MLC35	Golden Forty	100%	MLC499	Eldorado	100%	MLC603	TC8 Lease	100%
MLC350	Brolga	100%	MLC5	Peko Extended	100%	MLC604	TC8 Lease	100%
MLC351	Brolga	100%	MLC50	Eldorado Anom	100%	MLC605	TC8 Lease	100%
MLC352	Golden Forty	100%	MLC500	Eldorado	100%	MLC606	Lone Star	100%
MLC353	Golden Forty	100%	MLC501	Eldorado	100%	MLC607	Lone Star	100%
MLC354	Golden Forty	100%	MLC502	Eldorado	100%	MLC608	Lone Star	100%
MLC355	Golden Forty	100%	MLC503	Eldorado	100%	MLC609	Lone Star	100%
MLC36	Golden Forty	100%	MLC504	Eldorado	100%	MLC610	Lone Star	100%
MLC362	Lone Star	100%	MLC505	Eldorado	100%	MLC611	Lone Star	100%
MLC363	Lone Star	100%	MLC51	Eldorado Anom	100%	MLC612	Lone Star	100%
MLC364	Lone Star	100%	MLC518	Ellen, Eldorado	100%	MLC613	Lone Star	100%
MLC365	Lone Star	100%	MLC520	Great Northern	100%	MLC614	Lone Star	100%
MLC366	Lone Star	100%	MLC522	Aga Khan	100%	MLC615	Lone Star	100%
MLC367	Lone Star	100%	MLC523	Eldorado	100%	MLC616	Lone Star	100%
MLC368	Lone Star	100%	MLC524	Susan	100%	MLC617	Mt Samuel	50%
MLC369	Lone Star	100%	MLC527	Mt Samual	100%	MLC619	True Blue	85%
MLC37	Golden Forty	100%	MLC528	Dingo, Eldorado	100%	MLC644	Enterprise	100%
MLC370	Lone Star	100%	MLC529	Cats Whiskers	100%	MLC645	Estralita	100%
MLC371	Lone Star	100%	MLC53	Golden Forty	100%	MLC654	TC8 Lease	100%
MLC372	Lone Star	100%	MLC530	Lone Star	100%	MLC66	Traminer	100%
MLC373	Lone Star	100%	MLC535	Eldorado No 5	100%	MLC67	Traminer	100%
MLC374	Lone Star	100%	MLC54	Golden Forty	100%	MLC683	Eldorado	100%
MLC375	Lone Star	100%	MLC546	The Mount	100%	MLC692	Warrego Mine	100%
MLC376	Mulga 1	100%	MLC55	Golden Forty	100%	MLC705	Apollo 1	100%
MLC377	Mulga 1	100%	MLC558	New Hope	100%	MLC91	Carraman/Klond	100%
MLC378	Mulga 1	100%	MLC56	Golden Forty	100%	MLC92	Carraman/Klond	100%
MLC379	Mulga 1	100%	MLC576	Golden Forty	100%	MLC93	Carraman/Klond	100%
MLC38	Memsahib East	100%	MLC577	Golden Forty	100%	MLC94	Carraman/Klond	100%
MLC380	Mulga 1	100%	MLC581	Eldorado ABC	100%	MLC95	Carraman/Klond	100%
MLC381	Mulga 1	100%	MLC582	Eldorado ABC	100%	EL32213	Golden Slipper	100%
MLC382	Mulga 1	100%	MLC583	Eldorado ABC	100%		Остаст стрро.	
MLC383	Mulga 1	100%	MLC584	Golden Forty	100%			
MLC384	Mulga 1	100%	MLC585	Golden Forty	100%			
MLC385	Mulga 2	100%	MLC586	Golden Forty	100%			
MLC386	Mulga 2	100%	MLC580 MLC591	TC8 Lease	100%			
MLC387	_	100%	MLC591	TC8 Lease	100%			
MLC4	Mulga 2 Peko Extended	100%	MLC592 MLC593	TC8 Lease	100%			
MLC406	Comet	100%	MLC594	TC8 Lease	100%			
MLC407	Comet	100%	MLC595	TC8 Lease	100%			
	5511101	.5070		. 00 2000	10070			



# Mining Tenements Held at 31 March 2020 (New South Wales, Australia)

Tenement	Name	Interest
EL6226	Kadungle	80%
EL8463	Wellington	90%
EL8464	Fifield	90%
EL8519	Kiola	90%
EL8652	Sebastopol	90%
EL8715	Nyngan	100%
EL8766	Greater Kadungle	100%

Mining tenement EL32213 was acquired during the quarter. There were no tenements disposals during the quarter.