ASX ANNOUNCEMENT

4 May 2018

WODGINA ORE RESERVE COMMENTARY

Mineral Resources Limited (**ASX:MIN; MRL**) refers to its announcement on 1 May 2018 titled "Wodgina Mineral Resource and Ore Reserve Update" and its subsequent announcement on 2 May 2018 titled "Mineral Resource and Ore Reserve Update Correction".

The Company provides the following additional commentary in respect of the Ore Reserve described in those announcements:

- The Ore Reserve of 142.4 Million dry tonnes grading 1.19% Li_2O, 2.01% Fe, 15.4% Al_2O_3, 71.4% SiO_2 and 0.02% Ta_2O_5 is based on:
  - The upgraded hard rock Mineral Resource announced on 1 May 2018 of 211.6 Million tonnes grading 1.23% Li_2O, 1.65% Fe, 15.55% Al_2O_3, 71.92% SiO_2 and 0.02% Ta_2O_5;
  - Feasibility level studies were undertaken internally by MRL using its in-house design, engineering and metallurgy teams drawing upon their operational experiences at Wodgina as well as other lithium projects operated by MRL in Western Australia – these studies are not for release to the market due to them containing commercially and technically sensitive information; and
  - Results from production to date with the site operational since re-commencement of mining in February 2017.

- A mining model with ore loss and dilution has been produced by regularisation of the sub-celled geological Mineral Resource model using a selective mining unit block size of 10.0m (length) by 10.0m (width) by 5.0m (depth) with cut-off grade application post regularisation.

- This was followed by:
  - Open pit optimisation using Whittle 4X software;
  - Detailed open pit stage designs with a minimum mining width of 30 metres; and
  - Mine scheduling and costing.

- Operational waste dump and short term stockpile designs are in place with conceptual designs for the later phases of stockpiling and waste dump expansion.

- The Ore Reserves have been classified based on their Mineral Resource classification within the 60% Revenue Factor shell, with only Indicated Mineral Resources converted to Probable Ore Reserves. The pit shell used for calculating Ore Reserves contains 26.3 Million tonnes at 1.23% Li_2O of Inferred Mineral Resources that are included in the mine plans. While no Inferred Mineral Resources are reported in the Ore Reserves these have the potential to

increase the mining inventory with further drilling and metallurgical testing. The Ore Reserve is a subset of the Mineral Resources.

- All required environmental approvals are in place for the current Wodgina mine operation, the new spodumene processing plant, a 65MW power station and tailings storage facilities.

- All required native title and heritage agreements are in place for the current operation underway. These include Native Title and Heritage agreements with the Karriyarra people.

- Additional approvals for expansion of mining and infrastructure including an aerodrome are currently being sought.

- Current and planned mining is by use of conventional open pit methods. The current primary mine production fleet comprises Hitachi EX2600, EX3600 excavators, Komatsu PC2000 and PC7000 excavators and 19x Caterpillar CAT789D Haul trucks or similar equivalents with all required infrastructure for mining currently in place.

- Waste rock characterisation studies have been completed and indicate Potentially Acid Forming material. Waste characterisation continues to be undertaken as part of ongoing operations.

- The key parameters used for conversion of the Mineral Resources to Ore Reserves include (but are not limited to) the following:

Production

Annual production of 750,000 dry metric tonnes of 6% Li_2O Spodumene concentrate. This plant is currently under construction and will be delivered in three trains, each with a capacity of 250ktpa (see ASX announcement dated 01 May 2018 for further details).

Processing

- o When completed the processing plant will consist of:
    - A three-stage crushing circuit – primary crushing, secondary crushing, high-pressure grinding rollers (HPGRs) with capacity of 10mtpa ;
    - A modular wet processing plant – three parallel trains each producing 250ktpa of spodumene;
    - Ball milling, de-sliming and iron removal stages;
    - A conventional spodumene flotation circuit; and
    - Filtration of the spodumene concentrate to <10% moisture for transport to Port Hedland for shipping;
- o An overall Lithium metal processing recovery of 65%; and
- o A cut-off grade of 0.5% Li_2O as required to achieve target plant feed grades.

Geotechnical / Mining

- o An overall pit slope of 43° as estimated from past and present mining practices; and
- o Ore recovery of 100% supported by reconciliation of actual production against the mining model.

Pricing

Pricing estimates of DSO and Spodumene products are internal price forecasts based on:

- o Prices received for existing DSO and Spodumene products from MRL lithium operations at Wodgina and Mt Marion;
- o External price forecast studies;
- o Exchange rate from MRL corporate projections; and
- o No deleterious content discounts have been applied.

Costs

- o Transportation costs have been estimated using projections of actual operating costs;

- o Government royalties have been included in the costs; and

- o Treatment and processing costs have been estimated based on various existing commercial MRL Crushing and Lithium and Iron Ore processing operations.

ENDS

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ESTIMATION AND REPORTING OF ORE RESERVES

Criteria	JORC Code Explanation	Commentary
Mineral Resource estimate for conversion to Ore Reserves	• *Description of the Mineral Resource estimate used as a basis for the conversion to an Ore Reserve.* • *Clear statement as to whether the Mineral Resources are reported additional to, or inclusive of, the Ore Reserves.*	• The Mineral Resource estimate used for conversion to Ore Reserves dated 30 April 2018 was compiled by Mr Lynn Widenbar of Widenbar and Associates Pty Ltd and is based on: historical drilling information provided and prepared by Cube Consulting during September 2013; and recent exploration drilling completed by MRL: from September 2016 to July 2017; and February to March 2018. • The Mineral Resource estimate is based on a cut-off grade of 0.5% Li2O. • The Mineral Resource estimate is not additional to the Ore Reserve estimate. The Ore Reserve estimate is a sub-set of the Mineral Resource estimate.
Site visits	• *Comment on any site visits undertaken by the Competent Person and the outcome of those visits.* • *If no site visits have been undertaken indicate why this is the case.*	• The Competent Person is Mr Ross Jaine (MAusIMM) a full-time employee of MRL. • A number of visits were undertaken prior to and during recommencement of mining operations at the site.
Study status	• *The type and level of study undertaken to enable Mineral Resources to be converted to Ore Reserves.* • *The Code requires that a study to at least Pre-Feasibility Study level has been undertaken to convert Mineral Resources to Ore Reserves. Such studies will have been carried out and will have determined a mine plan that is technically achievable and economically viable, and that material Modifying Factors have been considered.*	• The Ore Reserve estimate is based on feasibility level studies undertaken by MRL and the results of production to date with the site operating since re-commencement of mining in February 2017.
Cut-off parameters	• *The basis of the cut-off grade(s) or quality parameters applied.*	• A cut-off of 0.5% Li2O has been used to achieve required plant feed grades.
Mining factors or assumptions	• *The method and assumptions used as reported in the Pre-Feasibility or Feasibility Study to convert the Mineral Resource to an Ore Reserve (i.e. either by application of appropriate factors by optimisation or by preliminary or detailed design).* • *The choice, nature and appropriateness of the selected mining method(s) and other mining parameters including associated design issues such as pre-strip, access, etc.* • *The assumptions made regarding geotechnical parameters (eg pit slopes, stope sizes, etc), grade control and pre-production drilling.* • *The major assumptions made and Mineral Resource model used for pit and stope optimisation (if*	**Mining Method** • Current and planned mining of the resource is by use of conventional open pit methods. The current primary mine production fleet comprises Hitachi EX2600, EX3600 excavators, Komatsu PC2000 and PC7000 excavators and Caterpillar CAT789D Haul trucks and similar equivalents. • Mine designs comprise detailed pit designs for the Life-of-Mine plan. Operational waste dump and short term stockpile designs are in place with conceptual designs for the later phases of stockpiling and waste dump expansion. **Optimisation** • The deposit was optimised using Whittle Optimisation software. • Indicated and Inferred Mineral Resource categories were used in the Whittle Optimisation process. • An overall slope of 43° has been used for optimisation as estimated from past and present mining practices.

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	appropriate). • *The mining dilution factors used.* • *The mining recovery factors used.* • *Any minimum mining widths used.* • *The manner in which Inferred Mineral Resources are utilised in mining studies and the sensitivity of the outcome to their inclusion.* • *The infrastructure requirements of the selected mining methods.*	• Dilution and ore loss has been modelled by regularisation of the geological resource model using a selective mining unit of 10.0m (length) by 10.0m (width) by 5.0m (depth) with the cut-off grade applied after regularisation. • A minimum mining width of 30m has been used in the pit designs. • No additional ore loss or ore recovery factors have been applied based on the most recent available reconciliation information from operations. **Mine Plan** • Inferred Mineral Resources were included in the optimisation and 26.3Mt at 1.23% Li2O of Inferred Mineral Resources are included in the mine plans. No Inferred Mineral Resources have been reported in the Ore Reserves. **Infrastructure requirements of the selected mining method** • The Wodgina Project is currently operational with all required infrastructure for mining in place.

Metallurgical factors or assumptions	• *The metallurgical process proposed and the appropriateness of that process to the style of mineralisation.*
	• *Whether the metallurgical process is well-tested technology or novel in nature.*
	• *The nature, amount and representativeness of metallurgical test work undertaken, the nature of the metallurgical domaining applied and the corresponding metallurgical recovery factors applied.*
	• *Any assumptions or allowances made for deleterious elements.*
	• *The existence of any bulk sample or pilot scale test work and the degree to which such samples are considered representative of the orebody as a whole.*
	• *For minerals that are defined by a specification, has the ore reserve estimation been based on the appropriate mineralogy to meet the specifications?*
		• An upgrade of the existing processing facilities and site infrastructure at Wodgina is in progress to support a 750ktpa spodumene plant producing 6% spodumene concentrate. This plant is currently under construction and will be delivered in three trains, each with a capacity of 250ktpa.
		• Production of 6% spodumene concentrate from each of the three trains is expected to commence in October 2018, December 2018 and March 2019 respectively.
		• When completed the processing plant will consist of:
		  o A three-stage crushing circuit – primary crushing, secondary crushing, high-pressure grinding rollers (HPGRs) with capacity of 10mtpa ;
		  o A modular wet processing plant – three parallel trains each producing 250ktpa of spodumene;
		  o Ball milling, de-sliming and iron removal stages;
		  o A conventional spodumene flotation circuit; and
		  o Filtration of the spodumene concentrate to <10% moisture for transport to Port Hedland for shipping

Environmental	• *The status of studies of potential environmental impacts of the mining and processing operation. Details of waste rock characterisation and the consideration of potential sites, status of design options considered and, where applicable, the status of approvals for process residue storage and waste dumps should be reported.*	• All required environmental approvals are in place for the Wodgina mine operation, including a new process plant, power station and tailings storage facility. • Waste rock characterisation studies have been completed and indicate Potentially Acid Forming material. Waste characterisation continues to be undertaken as part of ongoing operations. • Additional approvals for expansion of mining and infrastructure activities including an aerodrome are currently being sought.

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Infrastructure	• *The existence of appropriate infrastructure: availability of land for plant development, power, water, transportation (particularly for bulk commodities), labour, accommodation; or the ease with which the infrastructure can be provided, or accessed.*	• Existing infrastructure in place supports current operational DSO production requirements at 5.28Mtpa.
		• Major additional infrastructure requirements for the spodumene concentrate plant include an upgrade of the existing processing facilities and site infrastructure at Wodgina to support a 750ktpa spodumene plant producing 6% spodumene concentrate. This plant is currently under construction and will be delivered in three trains, each with a capacity of 250ktpa.
		• Production of 6% spodumene concentrate from each of the three trains is expected to commence in October 2018, December 2018 and March 2019 respectively.
		• When completed the processing plant will consist of:
		• A three-stage crushing circuit – primary crushing, secondary crushing, high-pressure grinding rollers (HPGRs) with capacity of 10mtpa ;
		• A modular wet processing plant – three parallel trains each producing 250ktpa of spodumene;
		• Ball milling, de-sliming and iron removal stages;
		• A conventional spodumene flotation circuit; and
		• Filtration of the spodumene concentrate to <10% moisture for transport to Port Hedland for shipping
		• Additional Infrastructure required currently under construction or planned are:
		   o Power station: 32 x 2MW gas gen-sets totalling 65MW
		   o Camp: Upgrade to 750-room accommodation facility
		   o Airstrip capable of landing jet aircraft

Costs	• *The derivation of, or assumptions made, regarding projected capital costs in the study.* • *The methodology used to estimate operating costs.* • *Allowances made for the content of deleterious elements.* • *The derivation of assumptions made of metal or commodity price(s), for the principal minerals and co-products.* • *The source of exchange rates used in the study.* • *Derivation of transportation charges.* • *The basis for forecasting or source of treatment and refining charges, penalties for failure to meet specification, etc.* • *The allowances made for royalties payable, both Government and private.*	• Capital requirements have been estimated through the MRL group's internal specialist engineering capability • Future operating costs were estimated using a combination of existing DSO operating costs with adjustments from spodumene concentrate plant pre-feasibility studies. • The cost estimates are in AUD with the exchange rate sourced internally from MRL corporate projections • Transportation costs have been estimated using projections of actual operating costs • Government royalties have been included in the costs • No deleterious content discounts have been applied • Treatment and processing costs have been estimated based on various existing MRL Crushing and Lithium and Iron Ore processing operations • Pricing estimates of DSO and Spodumene products are internal price forecasts based on prices received for existing DSO and Spodumene products from MRL lithium operations at Wodgina and Mt Marion and external price forecast studies

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Revenue factors	• *The derivation of, or assumptions made regarding revenue factors including head grade, metal or commodity price(s) exchange rates, transportation and treatment charges, penalties, net smelter returns, etc.* • *The derivation of assumptions made of metal or commodity price(s), for the principal metals, minerals and co-products.*	• The exchange rate has been sourced internally from MRL corporate projections • Transportation costs have been estimated using projections of actual operating costs • Government royalties have been included in the costs • No deleterious content discounts have been applied • Treatment and processing costs have been estimated based on various existing MRL Crushing and Lithium and Iron Ore processing operations • Pricing estimates of DSO and Spodumene products are internal price forecasts based on prices received for existing DSO and Spodumene products from MRL lithium operations at Wodgina and Mt Marion and external price forecast studies • The Spodumene revenue estimates are based on an overall metal recovery of 65%

Market assessment	• *The demand, supply and stock situation for the particular commodity, consumption trends and factors likely to affect supply and demand into the future.*
	• *A customer and competitor analysis along with the identification of likely market windows for the product.*
	• *Price and volume forecasts and the basis for these forecasts.*
	• *For industrial minerals the customer specification, testing and acceptance requirements prior to a supply contract.*
		• Numerous external assessments forecast high Lithium demand underpinned by Electric Vehicle rechargeable battery demand
		  o A competitor analysis has been undertaken evaluating ; or
		  o Price and Volume forecasts.
		• MRL currently markets and manages lithium DSO and Spodumene products and specifications to customers utilising in house marketing expertise
		• Projected pricing estimates of DSO and Spodumene products are based on consideration of: prices received for existing DSO and Spodumene products from MRL lithium operations at Wodgina and Mt Marion;
		• External Lithium Pricing Forecasts

Economic	• *The inputs to the economic analysis to produce the net present value (NPV) in the study, the source and confidence of these economic inputs including estimated inflation, discount rate, etc.* • *NPV ranges and sensitivity to variations in the significant assumptions and inputs.*	• Whittle 4X analysis was undertaken to identify the economic portions of the deposit. • Sensitivity analysis using +/- 20% from assumed values indicates the project is most sensitive to direct revenue factors such as price, metallurgical recovery, processing and mining cost. • A discount rate of 7.3% was applied
Social	• *The status of agreements with key stakeholders and matters leading to social licence to operate.*	• All required native title and heritage agreements are in place for the current operation underway. These include Native Title and Heritage agreements with the Karriyarra people.

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Other	• *To the extent relevant, the impact of the following on the project and/or on the estimation and classification of the Ore Reserves:* • *Any identified material naturally occurring risks.* • *The status of material legal agreements and marketing arrangements.* • *The status of governmental agreements and approvals critical to the viability of the project, such as mineral tenement status, and government and statutory approvals. There must be reasonable grounds to expect that all necessary Government approvals will be received within the timeframes anticipated in the Pre-Feasibility or Feasibility study. Highlight and discuss the materiality of any unresolved matter that is dependent on a third party on which extraction of the reserve is contingent.*	• Identified risks include the following: o Overall wall angles for optimisation with further studies to confirm or modify currently underway
Classification	• *The basis for the classification of the Ore Reserves into varying confidence categories.* • *Whether the result appropriately reflects the Competent Person's view of the deposit.* • *The proportion of Probable Ore Reserves that have been derived from Measured Mineral Resources (if any).*	• The Ore Reserves have been classified based on their Mineral Resource classification within the 60% Revenue Factor shell, with all Indicated Mineral Resources converted to Probable Ore Reserves. • This classification appropriately reflects the Competent Person's view • No Probable Ore Reserves have been derived from the Measured Mineral Resources
Audits or reviews	• *The results of any audits or reviews of Ore Reserve estimates.*	• There have been no external audits or reviews of the Ore Reserve estimates. • There have been internal peer reviews confirming the Ore Reserve estimates.

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Discussion of relative accuracy/ confidence	• *Where appropriate a statement of the relative accuracy and confidence level in the Ore Reserve estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the reserve within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors which could affect the relative accuracy and confidence of the estimate.* • *The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used.* • *Accuracy and confidence discussions should extend to specific discussions of any applied Modifying Factors that may have a material impact on Ore Reserve viability, or for which there are remaining areas of uncertainty at the current study stage.* • *It is recognised that this may not be possible or appropriate in all circumstances. These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.*	• Factors other than revenue/price and cost factors that may affect the global tonnages and grade estimates include: the geological interpretation; ore recovery and mining dilution estimates; and processing performance. • Reconciliation of March 2018 actual production of 554kt versus the Mineral Resource model of indicates favourable recovery at 105.3% of ore tonnes; and 102.6% of Li2O grade as predicted by the model. • No other assessments of the relative accuracy or confidence limits of the Ore Reserve have been undertaken. • The Ore Reserves have been tested for sensitivity to price, cost and geotechnical design parameters and found to be relativity insensitive to perceivable variations to these variables