Rio Tinto declares maiden Ore Reserve at Jadar

10 December 2020

Rio Tinto has disclosed a maiden Ore Reserve and updated Mineral Resource at the 100% owned Jadar lithium-borates project in western Serbia.

The Ore Reserve is 16.6 Mt at 1.81% Li_2O and 13.4% B_2O_3

The Mineral Resource underlying the maiden Ore Reserve has been updated to incorporate additional drilling which resulted in an updated geological model. Mineral Resources are reported exclusive of Ore Reserves.

The Mineral Resource comprises 55.2 Mt of Indicated Resource at 1.68% Li_2O and 17.9% B_2O_3 with an additional 84.1 Mt of Inferred Resource at 1.84% Li_2O and 12.6% B_2O_3

The update precedes the release of the project's 'Elaborate of Resources and Reserves', reporting required under the Serbian Reporting Code YU53/79. Declaration of resources and reserves is an important milestone as the project progresses towards the award of an exploitation license, the precursor to a construction licence.

Pre-feasibility studies have shown that the Jadar project has the potential to produce both battery grade lithium carbonate and boric acid. The deposit is located on the doorstep of the European Union, one of the fastest growing electric vehicle (EV) markets in the world, and has the potential to provide lithium products into the EV value chain for decades. Boric acid is, a key raw material for advanced glass and fertilizer products and would be integrated with and complimentary to Rio Tinto's established position in this market. The scale and high grade nature of the Jadar mineralisation provides the potential for a long life operation in the first quartile of the industry cost curve for both products.

The project under study consists of an underground mine, sustainable industrial processing and waste facilities as well as associated infrastructure. Jadar, one of the largest greenfield lithium projects in development, would be capable of producing approximately 55 thousand tonnes of battery grade lithium carbonate, as well as 160 thousand tonnes of boric acid (B_2O_3 units) and 255 thousand tonnes of sodium sulfate as by-products per annum[1]. It represents a significant investment for Serbia with both direct and indirect economic benefits, and would become the country's second largest exporter.

At the end of July 2020, the project moved into feasibility study, with an investment of almost $200 million on a scope that includes detailed engineering, land acquisition, workforce and supply preparation for construction, permitting and the early infrastructure development. The feasibility study is expected to be complete at the end of 2021 and, if approved, construction could take up to 4 years.

Jadar maiden Ore Reserve and Mineral Resource update:

A full tabulation of the Jadar Ore Reserve and Mineral Resource is provided in Table A and Table B and is underpinned by the Jadar Pre-feasibility Study (PFS), which was completed in July 2020. Table A also contains the previously disclosed Mineral Resource for comparison. Results reported herein have been prepared in accordance with the reporting requirements set out in the 2012 edition of the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves" (the JORC Code). Details of data collection and

[1] These production targets are underpinned as to 34% by Probable Ore Reserves, as to 1% by Indicated Mineral Resources and as to 65% by Inferred Mineral Resources. The relevant estimates of Ore Reserves and Mineral Resources are as set out in this report and have been prepared by Competent Persons in accordance with the requirements of the JORC Code. There is a low level of geological confidence associated with Inferred Mineral Resources and there is no certainty that further exploration work will result in the determination of Indicated Mineral Resources or that the production target itself will be realised.

resource and reserve estimation techniques are provided in Appendix A to this release in accordance with the Table 1 checklist in the JORC Code. Mineral Resources are reported exclusive of Ore Reserves.

Table A: Mineral Resource tabulation for the Jadar Project

Classification	Tonnes (Mt)		Li_2O (%)		B_2O_3 (%)	
	Previous	Current	Previous	Current	Previous	Current
Measured	-	-	-	-	-	-
Indicated	52.7	55.2	1.80	1.68	19.2	17.9
Inferred	83.4	84.1	1.90	1.84	13.2	12.6
Total	**136.1**	**139.2**	**1.86**	**1.78**	**15.5**	**14.7**

Table B: Ore Reserve tabulation for the Jadar Project

Classification	Tonnes (Mt)	Li_2O (%)	B_2O_3 (%)
Proved	-	-	-
Probable	16.6	1.81	13.4
Total	**16.6**	**1.81**	**13.4**

Jadar Mineral Resource

Geology and geological interpretation

The deposit occupies a continuous area approximately 3.0 km west-east by 2.5 km north-south at depths from 100 m to 720 m below surface. Mineralisation is present in three broad zones containing stratiform lenses of variable thickness hosted in a much thicker gently dipping sequence mainly composed of fine-grained sediments crossed by faults. Economic grades in the Lower Jadarite Zone (LJZ) occur from depths of approximately 300 m in the south, dipping at about 10 degrees to the north where they exceed 720 m in depth. From a stratigraphic point of view, it is observed that sedimentation in the basin is associated with a low energy environment for large periods with widespread distribution of stratigraphic units in the basin. There were periodical influxes of coarser clastics that are interpreted to be sourced mainly from the slopes of the basin to the north and northwest. Contribution from the west-southwest seems to be important during certain periods of basin fill.

Jadarite, $LiNaSiB_3O_7(OH)$, is a mineral unique to the Jadar deposit that was previously unknown to science. Its composition was determined by the Natural History Museum in London and was accepted in 2006 as a new mineral in the literature by the International Mineralogical Association (IMA) Commission on New Minerals, Nomenclature and Classification Faculty of Earth & Life Sciences Vrije Universiteit Amsterdam De Boelelaan 1085, 1081 HV Amsterdam, Netherlands. The new mineral was named after the Jadar River.

Jadarite consists of rounded micro-crystalline grains, nodules or concretions. On a larger scale the jadarite occurs in stratigraphic lenses that appear as bands of higher and lower lithium and borate grades in core. At the scale of the project area, jadarite mineralisation can vary from 1 to 2 m to over 50 m in thickness. The mechanism for nucleation of the jadarite particles remains unresolved, but it is hypothesised that individual jadarite grains grew either at the water-sediment interface, or within the soft sediments. As the jadarite crystal grew it pushed aside other fine-grained minerals, to the extent that these formed a coating to act as a barrier to prevent the particle from coalescing with adjacent particles. Consequently, in high-grade bands the rounded character may be deformed as the particles changed shape to account for the limited space, forming a mosaic texture. Based on drill hole core observations, there appears to be a range of jadarite crystal textures, sizes and shapes. This proposed mode of deposition of jadarite rich sediments has resulted in the harder jadarite crystals hosted within a matrix of softer sediments ranging from fine mud to marls, carbonate rich sediments, clays and siltstones.

Drilling techniques
Geological exploration of the Jadar deposit has been completed using a number of drilling techniques. Total drilling within the Jadar deposit includes 448 diamond core holes totalling 204.3 km with an additional 67 rotary drilling holes totalling 11.2 km. Out of these, 11 rotary and 2 cored large diameter holes were completed to support the metallurgical testing campaign. Core recovery in Jadar deposit is generally excellent, with an overall recovery of 98.8% for drilling beyond 100 m depth, where all significant mineralisation occurs. If constrained to samples with assays reporting greater than 0.25% Li_2O, average recovery is outstanding with 99.2% of drilled length recovered. In addition to the drilling undertaken, a 3D seismic program has been completed over the deposit that has increased confidence in the geological model and location and orientation of the modelled higher grade mineralisation.

Sampling, sub-sampling method and sample analysis method
Both lithium and boron are assayed as elemental percentages, but for processing and estimation are converted to oxide percentages of Li_2O and B_2O_3 by multiplying with factors 2.153 and 3.22, respectively. For a smaller group of samples, a broad suite of elements was analysed including possible hazardous or radioactive elements such as As, Hg, Pb, Tl, Th and U, with no elevated grade values observed that would be considered hazardous.

Estimation methodology
The geological and resource modelling for Jadar was generated using the Vulcan geological modelling software. The Isatis geostatistical software package was used for geostatistical input to the grade estimation process including statistical analysis, variography, kriging neighbourhood analysis, and block model validation and global change of support studies. Grade estimation was undertaken in Vulcan using Ordinary Kriging (OK) for all economic and other variables using a parent block size of 20 m(N) by 20 m(E) by 2 m(RL).

Criteria used for classification
The Jadar Mineral Resource category determination is based on a number of factors including, confidence in the resource data, drill hole density in the LJZ - with Indicated Mineral Resources having drill hole spacing less than 150 m, geological continuity and confidence in the structural model and grade continuity based on the semivariogram and sectional interpretations. Currently only the LJZ has been classified as Mineral Resource based on completed studies.

Economic assumptions
The grade model used for reporting Jadar Mineral Resources is based on LJZ grade domains defined using a US$300/t contained ($Li_2O$ and B_2O_3) cut-off grade (COG), with the lithium oxide and borate dollar values based on 2019 internal pricing forecast and projected operating costs. The US$300/t COG represents a natural break in the grade distribution between the modelled and reported higher grade jadarite mineralisation and lower grade background material. The LJZ grade model consists of 13 domains, which has resulted in elevation and dip differences between the faulted blocks that require separate estimation runs within each faulted block to correctly estimate resource model block grades.

As jadarite is a new mineral to the mining industry, it was important to demonstrate that the ore can be processed economically. Significant processing studies have been undertaken and it has been demonstrated from pilot plant studies that the jadarite can be processed economically with high recoveries. Thus, the JORC requirement for “reasonable prospects for eventual economic extraction” can be reasonably justified.

Rio Tinto

Jadar maiden Ore Reserve

The Jadar PFS has been completed for the Jadar deposit, the results of which underpin this Ore Reserve declaration. The valuation of the Jadar Project has been completed using internal pricing scenarios, the life of mine schedule prepared for the PFS, capital and operating costs developed by Rio Tinto and taxation and royalties applicable in Serbia. The valuation demonstrated that the Jadar Project is value accretive on a standalone basis and cashflow positive based on Probable Ore Reserves. The declared Ore Reserve at Jadar is contained in Table B.

Mining and recovery factors

The orebody will be extracted using underground mining methods which are variants of cut and fill, and bench stoping. Mining panels were generated on regular grids within each structural zone. Internal to these panels, individual mining stopes and associated development accesses were created for interrogation and scheduling.

The stope outlines were generated using the Deswik® Stope Optimisation (SO) process at the selected mining cut-off value. The mining cut-off value was selected to maximise project NPV and was developed using the project economic model financial drivers. The sharp hanging wall and footwall grade boundaries preclude the addition of significant global tonnes to the optimisation process. Block value is calculated for each cell as the sum of the estimated recoverable revenue for lithium carbonate, boric acid and sodium sulfate.

The rock at Jadar is classified as Weak Rock (5–25 MPa uniaxial compressive strength) with an average of approximately 20 MPa. Rock mass characterisation has been assessed using industry accepted classification methods including Rock Quality Designation, Geological Strength Index and the Q-System. Detailed numerical modelling has been completed to assess the stability of excavations and the mining sequence across the life of mine. The modelling has included detailed tunnel scale and stope modelling as well as modelling of the life of mine covering the PFS mine design and mining sequence. Modelling shows that tunnel deformation is expected due to the soft nature of the rock; however, support systems and sequencing will allow these conditions to be managed. To manage geotechnical conditions in abutment loading, a combination of continuous retreat mining sequence, backfill and inter-panel pillars will be utilised. The paste fill plant uses a combination of site generated residues and imported aggregates. The combination of pillars and paste backfill will limit surface subsidence to manageable levels. Ground support in development comprises fibrecrete, resin bolts and mesh. Cable bolting is utilised at intersections, access development and within the production drives.

The underground mine will be accessed via a twin shaft system located outside the Jadar River floodplain to the southwest of the LJZ. The main production shaft will be 8.5 m diameter and equipped with two 9 t skips capable of hoisting a peak 7,200 t/day of ore and rock waste material.

The Probable Ore Reserve covers a footprint of approximately 0.44 km^2 of the total LJZ footprint which is approximately 3.4 km^2. Note, the Elaborate of Resources and Reserves (ERR) schedule submitted to the Serbian Government includes material derived from an Inferred Resource. Due to the position of the twin shafts, shaft and access development, it is not practical to develop a mine schedule based on Indicated Resources only.

Processing method

Development of the flowsheet to process the jadarite mineralised material has been accompanied by extensive laboratory test work and piloting over a period of approximately a decade. The flowsheet incorporates standard unit operations arranged in a manner to suit the unique lithium and boron mineralogy associated with the Jadar resource and consists of three main sections:

1. Comminution and beneficiation to produce a jadarite concentrate.
2. Hydrometallurgical processing of the jadarite concentrate to produce unrefined lithium carbonate, technical grade boric acid and anhydrous sodium sulfate.
3. Bi-carbonation of the unrefined lithium carbonate to produce battery grade lithium carbonate.

Comminution and beneficiation involves taking advantage of the hardness differential between the hard jadarite particles and the much softer host rock to produce a 4 mm/+0.2 mm jadarite concentrate, with the -0.2 mm fraction rejected as beneficiation residue. The circuit comprises conventional comminution and classification unit operations, including a high pressure grinding roll (HPGR) which is the key unit operation in this section. HPGR testing has been performed in a near commercial-scale unit, using a range of ore composites generated from various size drill core across the resource to understand the behaviour of jadarite mineralised material. Jadarite concentrate generated is then used in subsequent hydrometallurgical process test work and piloting.

Hydrometallurgical processing involves the initial digestion (leaching) of the concentrate using sulfuric acid. Jadarite can be digested in a dilute sulfuric acid solution; it does not require calcination as a pre-treatment. The consumption of sulfuric acid is predictable with negligible chemical reaction of most gangue minerals - apart from a portion of the carbonates and soluble chlorides. This allows the downstream processing of the pregnant liquor produced from the digestion stage to be a combination of conventional boric acid, lithium carbonate and anhydrous sodium sulfate production processes.

The hydrometallurgical process has been successfully piloted in three separate campaigns at a scale of 5 to 8 kg/h-concentrate in continuous closed circuit mode. The campaigns successfully produced unrefined lithium carbonate, boric acid and sodium sulfate at target recoveries without the build-up of detrimental species.

A large portion of the unrefined lithium carbonate produced in the piloting was refined in a separate small-scale continuous testing campaign via a standard bicarbonation process to produce battery grade lithium carbonate.

The hydrometallurgical process produces two solid wastes as filter cakes - digestion residue and liming residue - and one liquid effluent – a process bleed stream for chloride control. The coarse portions of the beneficiation and digestion residue will be utilised as part of the mine backfill. The remaining digestion residue and the liming residue will be blended with filtered beneficiation residue, partially dried then stacked in filtered residue storage facility.

Modifying factors
An extensive permitting regime is in place in Serbia for mineral exploitation and the project is progressing though this process. Currently a retention permit for the deposit is held. The adoption of Elaborate of Resources and Reserves will permit the project to submit the application for exploitation, which provides mining tenure for the deposit. This permit is expected during the course of the Feasibility Study.

The Government of Serbia has adopted a Spatial Plan for a Special Purpose Area (SPSPA), which covers the project area and acts as a zoning definition to support the industrial nature of the mine and processing facility. The Jadar Project is located within an area of existing infrastructure and services close to the City of Loznica. Only minor connections are required to link the operation with existing rail and road infrastructure.

Competent Persons statement

The information in this report that relates to Mineral Resources is based on information compiled under the supervision of Mr Mark Sweeney, who is a Member of the Australasian Institute of Mining and Metallurgy (MAusIMM), and Mr Jorge Garcia, who is a Member of the European Federation of Geologists (EFG). Each of Mr Sweeney and Mr Garcia has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity to which he is undertaking to qualify as a Competent Person as defined in the JORC Code.

Mr Sweeney and Mr Garcia are full-time employees of Rio Tinto and each of them consents to the inclusion in this report of Jadar Mineral Resources based on the information that he has prepared in the form and context in which it appears.

The information in this report that relates to Ore Reserves is based on information compiled under the supervision of Mr Allan Earl who is a Fellow of the Australasian Institute of Mining and Metallurgy (FAusIMM) and has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity to which he is undertaking to qualify as a Competent Person as defined in the JORC Code.

Mr Earl's assessment is supported from a metallurgical perspective by Mr Gary Davis who is a Member of the Australasian Institute of Mining and Metallurgy (MAusIMM) and has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity to which he is undertaking to qualify as a Competent Person as defined in the JORC Code.

Mr Earl is full-time employee of Snowden Mining Industry Consultants Pty Ltd working as a consultant to Rio Tinto. Mr Davis is a full time employee of Rio Tinto. Each of Mr Earl and Mr Davis consents to the inclusion in this report of the matters based on the information that he has prepared in the form and context in which it appears.

Appendix A: Jadar Project: JORC Table 1

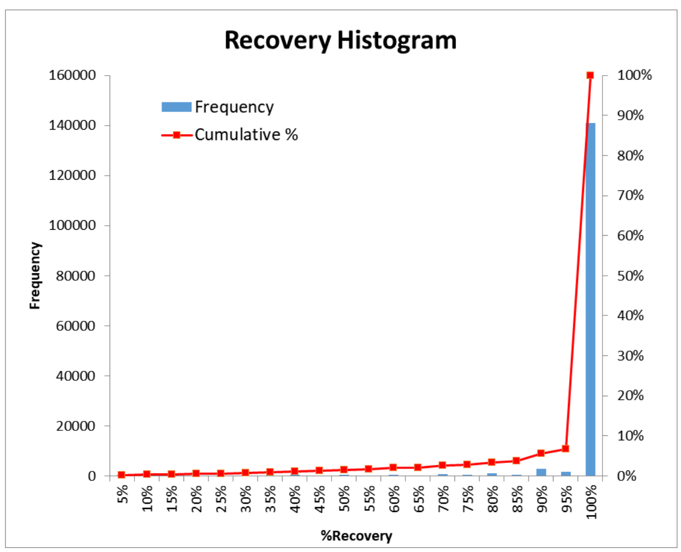
The following table provides a summary of important assessment and reporting criteria used at the Jadar Project for the reporting of Mineral Resources in accordance with the Table 1 checklist in *The Australasian Code for the Reporting of Exploration Results, Mineral Resources and Ore Reserves (The JORC Code, 2012 Edition)*. Criteria in each section apply to all preceding and succeeding sections.

SECTION 1 SAMPLING TECHNIQUES AND DATA

Criteria	Commentary
Sampling techniques	• All samples for assaying and density determination are taken from predominant HQ3 (some PQ3 and rarely NQ3) vertical or occasionally inclined diamond core drilling. • Mineralised intervals were sampled based on visual grade estimates honouring lithological breaks, with sample lengths ranging between 0.5 m and 1.5 m. Sampling was extended a minimum of 6 m into the hangingwall and footwall. The entire sample was crushed and pulverised with between 100 g and 150 g sent for geochemical assaying. • Sample representativity is ensured by drilling on a grid that is generally evenly spaced at average of 100 m, but with closer spacing at certain locations so that geostatistical measures are informed. Most holes are drilled through the entire jadarite-bearing sequence into visibly low-grade material below the Lower Jadarite Zone. Drill core size is considerably larger than grain size, and orientation approximately perpendicular to the bedding ensures that each sample is representative of the beds through which it passes.
Drilling techniques	• From 2004, a total of 515 drill holes (215,519.85 m) were drilled for resource, geotechnical, hydrogeological, sterilisation, bulk sampling and shallow geotechnical drilling programs. • Out of these, 448 drill holes (204,325.5 m) were diamond core drilled for resource, geotechnical, hydrogeological, sterilisation, etc. drilling programs. Ignoring shallow (<31 m depth) geotechnical holes, drilling reached a maximum of 1,360 m depth and averaged 550 m. The majority of cored holes (382) were planned vertical or subvertical, with 66 inclined holes oriented to intercept structural features. • Approximately 53% of all diamond drilling for the project was conducted with HQ3 diameter – standard triple-tube wireline drilling bit, mainly from 2004 to 2014. From 2015, the majority of drilling was with PQ3 diameter, representing roughly 45% of the total metres cored for the project. The balance corresponds to NQ3 drilling for early holes at depth. • Bulk sample drilling for pilot plant metallurgical test-work was completed via 11 large-diameter (500 mm) RC drill holes and one large-diameter (368 mm) diamond core hole. Additional samples for metallurgy were obtained from a 43 hole dedicated diamond PQ3 drilling campaign in 2018, and from PQ intercepts from other holes drilled with that diameter in the deposit. • A number (67) of open rotary bit holes (86-244 mm) were also drilled as a part of hydrogeological drilling program (installed: piezometers, wells, shallow wells, etc.) for ground water monitoring. • Due to the nature of the rock and characteristics of drilling, the use of core orientation during drilling was impractical. Instead, downhole ABI surveys were conducted for nearly 70% of the holes drilled in the deposit to obtain real orientation data for geological features.

Drill sample recovery

- All core is usually un-broken with excellent recovery (total average of 97.3%). Core loss is mostly recorded in the near surface (up to 30-35 m) in alluvium, well above the mineralised horizons. Vugs or cavities are rarely seen. Some ‘disking’ occurs, usually because of low adhesion of one bed to another and the occurrence fine-grained phyllosilicates – i.e. clays - on bedding faces, though this does not materially affect recovery.
- Core recovery in jadarite mineralization is generally excellent (98.8% in average) and no relationship between reduced recovery and mineralization has been observed. Sample bias due to preferential loss/gain of fine/coarse material in jadarite mineralization is considered very unlikely. Jadarite particles adhere to their matrix during drilling, and are cut through at core edges. Neither the particles nor the matrix are lost preferentially. An exception occurs in the Sodium Borates (NaBo) Zone, where occasional bands of a higher-solubility borate mineral is ‘necked’ down, but calculations indicate that the consequent bias is negligible (loss of pure borax is estimated to bias positively the assay results by +0.06%).
- When lower core recovery is obtained, this is usually due to structural fracturing, producing brecciated core. Holes with less than 85% recovery in total or less than 95% recovery in mineralisation are re-drilled.
- HQ core in 0.6 m long core boxes was taken to the core shed where recovery per meter is estimated and recorded by the logging geologist. For the PQ holes, 1 m long PVC core boxes were used, with the same logging procedure applied.
- Large diameter (86-244 mm) drilling uses a rotary bit to obtain samples of large chippings, with acceptable recovery calculated on a 1 m long sample weight/estimated weight base but these are only used for process test-work and are not used for Mineral Resource estimation.



Recovery Histogram (413 holes)

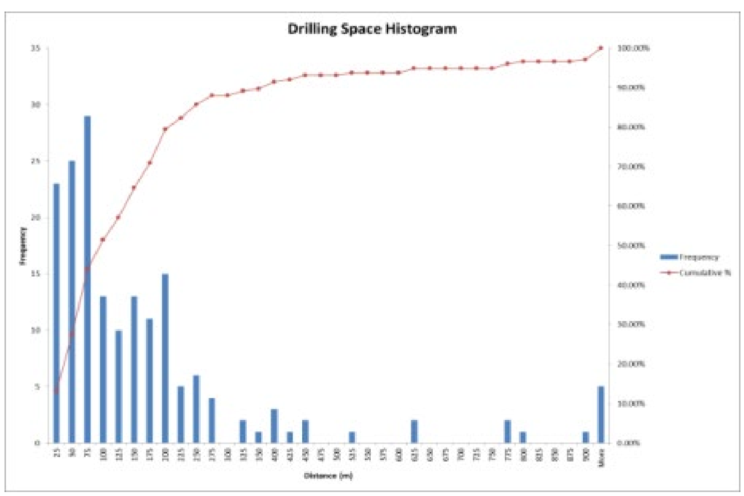
Logging

- All core is photographed both dry and wet, and fully logged by geologists for geotechnical features, lithology, stratigraphy, visible mineralization and other characteristics (grain size, texture, colour, etc.).
- Logging is done in the core shed, directly using dedicated laptops, with logging templates that will only accept pre-defined codes or values within numeric ranges. From 2016 the use of the acQuire off-line logging module (synchronised with main database) was implemented for lithology, mineralogy and geotechnical logging.
- Logging is currently peer reviewed and regularly supervised by a senior Project

	Geologist. During 2015 and 2016, a separate core re-logging program covered the main mineralized section for 87 holes drilled in previous years. The validated dataset was used to develop geology (geo) domains to support resource estimation, mining, hydrogeology, geotechnical and metallurgical studies, and the methodology has been adopted for subsequent drilling campaigns. • Down-hole logging was performed using a variety of probes for deviation surveys, calliper and temperature. This included geophysical logging to record the orientation of bedding, structures, and for other geotechnical measurements (ABI, N-Gamma, porosity, Density, MagSus, etc.).
Sub-sampling techniques and sample preparation	• Core sampling is completed at the core shed after logging, based on sampling criteria detailed in the Jadar Project Sampling Procedure as follows: • In early holes, all cored length was sampled with longer sampling intervals used in un-mineralized lengths. In 2010 a review of results for un-mineralized intervals demonstrated that these were of very low grade (near analytical method detection limit) and not of economic interest. As a result, all further (from hole JDR_38) sampling was restricted to core intervals containing visible jadarite or borate mineralization, extended for a further 4 samples above and below observed mineralization. • HQ3 is sampled by quarter-core, generally 1 m length quarter core is processed, with the remainder being retained for later submission as duplicates, re-assay etc. Sampling from NQ3 intervals is half-core. All cores are cut by diamond saw. • Sampling for the PQ3 holes drilled in 2015 was carried out using a diamond core side-cut (6-7 mm) with the remaining core sent to the pilot plant for processing test-work. Post 2015 all PQ3 core has been quarter-core sampled, which is roughly equivalent in sample mass per meter to half HQ core. PQ3 sample lengths were selected based on lithological and mineralisation boundaries. • Up to 2011 drill hole samples were prepared in an external preparation laboratory in Belgrade. From 2011 to 2015, samples were prepared at the Jadar core shed facilities, from where sealed pulp batches were sent to the ALS Laboratory (Vancouver, Canada) for assaying. Due to the limited capacity of the on-site preparation facility, samples from PQ holes have been prepared at the ALS Laboratory (Bor, Serbia) from 2016 onwards. • Samples as received at the lab are weighed, immersed in water for volumetric measurement and then dried at temperature just under 60ºC, for a minimum of 24 hours. The low temperature precludes thermal decomposition or dehydration of borate minerals present in the ore, so no crystal water losses occur during drying. • After drying, samples are weighed again to determine dry bulk density, and then the entire sample is crushed to -1.4 mm in two stages (first stage to –2 mm by jaw crusher and in second stage to -1.4 mm by rotary crusher, both stages >85% passing). • The crushed sample is subsampled in a rotary splitter to obtain 200-300 g, pulverized to -75 µm (>85% passing) and then riffle split to produce 100-150 g pulp for assaying. The unused rifle split pulp is stored in the sample archive. • The sampling procedure is considered appropriate to the type of mineralization. Drill quarter-core size is considerably larger than grain size (except where mineralization occurs in the form of veins) and orientated approximately perpendicular to the bedding. Use of a rotary splitter when the coarse sample size is near the jadarite grain size should ensure no bias introduced in splitting. The final pulp size is much smaller than the grains, which will break by brittle fracturing to ensure full homogenization so that the pulp is representative.

Quality of assay data and laboratory tests	• A general quality assurance/quality control (QAQC) involving duplicate samples in every stage (core duplicates, crush, pulp and laboratory stage duplicates) is implemented.
	• The following QA/QC controls are inserted in each batch of drilling pulps:
	  ○ 1st and every 40th are blanks.
	  ○ Every 20th is a field duplicate, from a 2nd quarter-core from a sample in the same batch.
	  ○ Every 20th is a coarse duplicate – prepared from a second split of the rotary splitter.
	  ○ Pulp duplicates are produced by ALS and reported at a frequency of 1 in 20 of the pulps they receive.
	  ○ Matrix-matched customised standards are inserted in pairs (one high-grade and one low-grade) every 20th.
	• From mid-2015 QA/QC the procedure was modified to include a full set of cascaded duplicates from core to pulp, where every 20th primary sample was twinned by a core duplicate and each of these duplicated at crush and pulp stages, resulting in 8 individual pulps for assaying.
	• The standard suite of assays includes Li_2O, B_2O_3, SiO_2, Fe_2O_3, CaO, MgO, Na_2O, K_2O, MnO and SrO. Additional assays for C_GAS05, S_IRO7, C_CO3 and S_SO3_NONLECO, Cl and F were conducted on selected samples for processing design purposes.
	• Early samples (until 2012) were assayed at the SGS-Lakefield laboratory in Ontario, Canada, where samples for lithium and boron were prepared by KOH fusion and then assayed by ICP-AES. In 2012, the decision was made to switch laboratory for improved turnaround times and to use a broadly adopted fusion package comparable across labs. A round robin test involving six laboratories was conducted, and since all lithium and boron samples have been assayed by ALS in Vancouver, and more recently in their facilities in Ireland. The analytical method is a Na_2O_2 fusion followed by ICP-AES, with major oxides determined by XRF.
	• All results are assessed via cross plots and statistics for precision and accuracy. Each individual batch is reviewed by a designated project geologists and approved for use or rejected on the basis of stablished QaQc rules. Broader reviews are conducted on a campaign basis by the competent person, with the last review completed in April 2020.
	• The Competent Person is satisfied that the results of the QA/QC program are acceptable and that the assay data from SGS and ALS is suitable for resource estimation.

Verification of sampling and assaying	• High and low grade intersections visibly identified and verified by Rio Sava geologists. • Sample details are recorded directly into templates in laptops. All data transfer is electronic following an agreed protocol and procedure (sampling data entry procedure, assays data verification and data storage into a database). • Lithium and boron assays are verified against visual mineral estimates and cross checked against core where discrepancies are noted. • The QA/QC review and approval workflow is embedded in the acQuire workspace, with individual approval required for each batch before data is released for use. The review and approval is conducted by a designated senior geologist. • Project QA/QC reviews are conducted regularly on a campaign basis, and for data supporting resource estimates.

	• Elemental concentrations for lithium and boron are reported by the laboratory. A chemical conversion factor is applied directly after import of the assays to the database to derive the Li_2O and B_2O_3 concentrations, which are incorporated to the database for subsequent uses in modelling. There is no further adjustment to assays. • There are no twinned holes in the project area.
Location of data points	• All surveyed coordinates are within Serbian Gauss Kruger projection system, using the Hermannskogel datum, Zone 6 (MGI_Zone_6). • Drill hole collars surveying after drilling is conducted by an external licensed surveying company, Geomax. The equipment used is a total station instrument SOKKIA-SET610 with stated accuracies of 2 mm ± 2 mm/km. All coordinates are received in Gauss Kruger Zone 6 with no coordinates transformation applied. • Down-hole surveys, including deviation, are carried out by an external company, Fugro, with data delivered in electronic format and imported to acQuire. Deviation data is exported at 25 m intervals for use in geological and resource modelling. • All down-hole survey azimuths (deviation and ABI) are oriented to magnetic north. Magnetic declination corrections are provided by the Serbian Magnetic Institute. Local monthly average correction factors extracted from that dataset and used for the calculation of true north geodetic azimuths. • Total of 21 early holes and with assays do not have downhole survey measurements. The 21 un-surveyed holes were collared vertically, and after investigation of deviations in surveyed holes it is considered that locational inaccuracy for un-surveyed holes is within acceptable error, and suitable for use in resource modelling. • In addition, 14 of the 21 un-surveyed early holes are barren (or very low-grade mineralisation) thus do not influence the mineralised project area.
Data spacing and distribution	• Drill spacing is in a random arrangement (semi grid) with average drill hole spacing of 100 m. Drill hole spacing ranges from 25 m around a central geostatistical-cross area, moving up to over 200 m in the peripheral areas. Drill spacing is sufficient to establish geological and grade continuity, and to support the current Mineral Resource classifications.  Drill hole spacing histogram (261 holes)
Orientation of data in relation to geological structure	• The majority of resource drill holes are vertical resulting in the drilling intersecting the sub-horizontal mineralisation at right angles. • Geological structures such as faulting range from sub-vertical to bedding parallel. Vertical drilling is unlikely to intersect regularly these structures, and will statistically

	misrepresent sub-vertical fractures. • Since 2012, 66 inclined holes were drilled to intercept interpreted steep fault structures. These faults displace the ore in the vertical direction and are important for mining studies. • In 2015, a 3D seismic survey, covering 10.5 km^2 was undertaken to improve understanding of the structural model. An additional six inclined drill holes were then drilled to confirm the new structural interpretation.
Sample security	• All sampling (cutting, tagging and packing into PVC bags) is conducted within the core shed by technicians based on sample lists prepared and supervised by a geologist. • Pre 2011 drill hole samples were prepared in an external preparation laboratory in Belgrade. From 2011 to 2015, samples were prepared at the Jadar core shed facilities, from where batches were sealed and sent to the ALS Laboratory (Vancouver, Canada and Ireland) for assaying. Due to the limited capacity of the on-site preparation facility, samples from PQ holes have been prepared at ALS Laboratory (Serbia) from 2016 onwards, with ALS coordinating internally the shipment to the analytical lab either in Vancouver or Ireland. • Chain of custody was followed insuring that only dedicated personal from the Jadar team and assaying laboratory had access to the samples at all stages of the sampling process. • There was no analytical laboratory visits or audits. Jadar team members randomly visited the ALS Laboratory (Bor, Serbia) when samples were prepared externally. • After assaying, remaining pulp material is returned and stored in the Jadar Project warehouse, along with an archive of pulp duplicates, allowing for re-assays if required.

Audits or reviews	• All work has been internally peer reviewed.
	• An independent review and resource estimation was undertaken by AMEC in January 2009.
	• Rio Tinto Technology and Innovation group (T&I) and Rio Tinto Exploration (RTX) conducted two internal resource estimation reviews in December 2012 and November 2013.
	• A Rio Tinto Exploration senior geologist and Jadar Project Competent Person conducted four internal QA/QC reviews at specific dates coincident with the end of large drilling campaigns, the last one in April 2020, which included all assays and drilling data incorporated into the resource model supporting this release.
	• Jadar Project has had three external audits completed in the past eight years:
	    ○ An audit in October 2011 conducted by SRK (Rio Tinto Corporate Assurance QAQC Internal Audit Report - Dec. 2011).
	    ○ An audit in September 2016 conducted by SRK (Rio Tinto Group Internal Audit Resources and Reserves Internal Audit Report – Oct. 2016).
	    ○ An audit conducted in December 2018 by AMC (Rio Tinto Group Internal Resource and Reserve (R&R) Internal Audit Report – Dec. 2018).
	• Audits concluded that the fundamental data collection techniques are appropriate and overall internal audit rating is “Satisfactory” or “Good”.

SECTION 2 REPORTING OF EXPLORATION RESULTS

Criteria	Commentary
Mineral tenement and land tenure status	• Rio Sava Exploration d.o.o. (Rio Sava), a fully owned subsidiary of Rio Tinto Energy and Minerals Product Group, is the legal owner of the Jadar Project. • The Exploration License got to the end of its life cycle in February 2020. Subsequently, Rio Tinto applied for a “Retention License” under Serbian regulations,

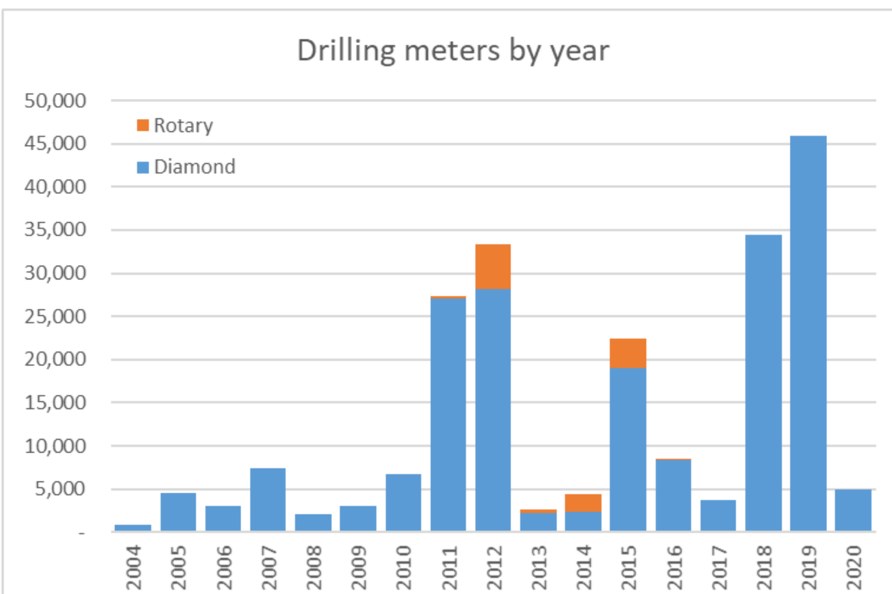
	with the new permit covering an area of 66.8 km^2, approved by the Government in February 2020 and valid until September 2021.
Exploration done by other parties	• The Jadar deposit was discovered by Serbian and American geologists working for Rio Tinto in 2004, with no pre-existing exploration for lithium and boron in the area. • Since its discovery, Rio Tinto has exclusively conducted activities at the Jadar Project. • Since the discovery of Jadar, a handful of junior companies have been exploring around and outside Rio Tinto licenses, without significant results to date.
Geology	• The Jadar deposit, discovered in 2004 in western Serbia, is a concentration of lithium and boron in a mineral new to science named jadarite, $LiNaSiB_3O_7(OH)$. The deposit is located in a valley with flat-lying farmland covering a surface area of 3.0 km by 2.5km. Known lithium and borate mineralisation lies at depths from 100 m to 720 m below surface. • The mineralization is hosted in a lacustrine sedimentary sequence of Miocene age dominated by calcareous claystones, siltstones, sandstones and clastic rocks (about 400 m to 500 m thick). The sequence dips to the north at between 0 and 25 degrees or more, but typically between 5 and 10 degrees, and it includes several thin tuff beds that provide valuable marker horizons for stratigraphic correlation. Miocene sediments lay unconformable on a basement of Cretaceous age. • The deposit includes three types of mineralization occurring as stratiform lenses of variable thickness, and hosted in gently dipping sequence of mainly fine-grained sediments that is dissected by faults: ○ Jadarite LiNaSiB3O7(OH) mineralization, new to science and so far unique to this deposit; occurs within a stratiform sedimentary lacustrine sequence with sub-horizontal beds of jadarite as rounded grains, nodules, or concretions generally in the range 1 mm to 10 mm in a siltstone / mudstone matrix. Jadarite is mainly concentrated in three gently dipping tabular zones known as the Upper, Middle and Lower Jadarite Zones (UJZ, MJZ and LJZ). ○ Sodium borates, mainly in the form of Ezcurrite - Na4B10O17·7H2O, but also as Kernite - Na2B4O7·4H2O, and Borax - Na2B4O7·10H2O, occurs as lenses that are interbedded with jadarite-bearing siltstones and mudstones, present mainly enclosed or adjacent to the LJZ with a more restricted areal distribution. ○ Gypsum occurs as layers of gypsiferous sandstone mixed with carbonate and crosscut by fibrous selenite gypsum veinlets; it is concentrated in the upper part of the sequence in the transition from lacustrine to brackish conditions (sub economic). • The genesis of the jadarite and borate mineralisation is conceptual at this stage: ○ Jadarite and borate beds are thought to have formed at or near the water–sediment interphase in the sediments from hydrothermal fluids entering the basin. ○ The jadarite and borate mineralisation has similarities to other deep water borate environments (i.e. Furnace Creek Fm. in US). • Jadarite bearing sediments are affected by sedimentary processes during deposition, including dewatering, sliding, slumping and extensional / compressional fractures associated with these events. Mineralisation is affected by normal and reverse fractures post lithification with limited remobilisation of jadarite and other borate minerals. • Significant mineralogical changes in the vertical are controlled by the geochemical evolution of the basin and mineralising events over time, and by the basin scale graben faulting that constrains the jadarite and NaBo mineralisation.

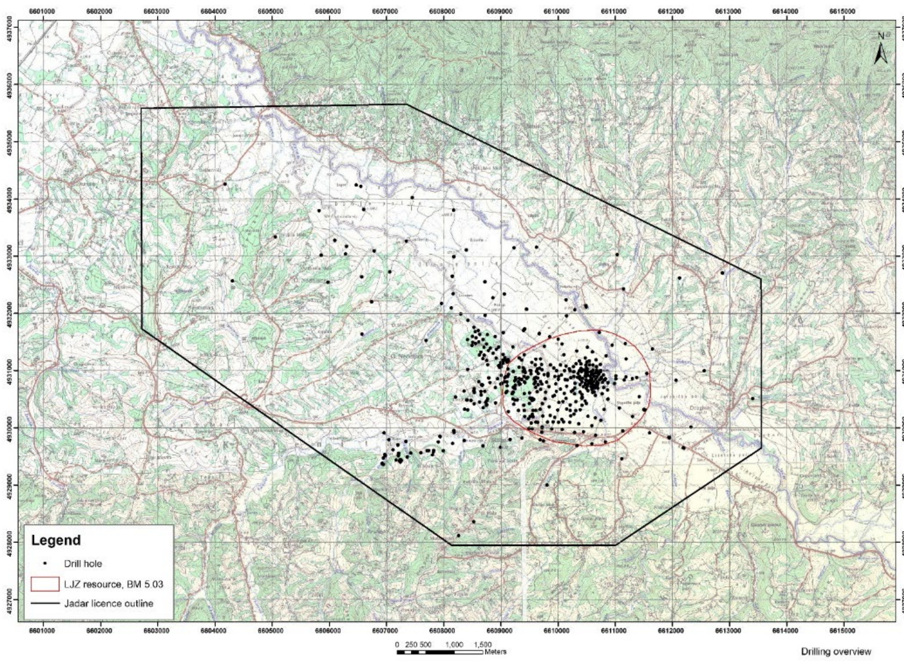
Drill hole information	

Drill hole information

- Since 2004, a total of 515 holes (215,519.85 m) were drilled for resource, geotechnical, hydrogeological and sterilisation drilling programs. Core drilling was predominant, but some open holes using rotary bit were also drilled for ground water monitoring system as a part of hydrogeological drilling program (installation of piezometers, wells, shallow Alluvium wells, etc.). Eleven (11) large diameter (LDD) RC holes (500 mm) were drilled, including one converted into diamond drill hole (308 mm) coring the LJZ, as a part of a bulk sampling drilling program.
- In total 448 holes were diamond core drilled (204,325.55 m), with 268 of these (155,775 m) supporting the current resource estimate (100% diamond drilling).

	Total holes		Diamond drilling		Rotary drilling	
Year	#DH	Meters	#DH	Meters	#DH	Meters
2004	3	871.70	3	871.70		
2005	11	4,572.90	11	4,572.90		
2006	5	3,076.90	5	3,076.90		
2007	13	7,401.30	13	7,401.30		
2008	4	2,063.15	4	2,063.15		
2009	6	3,107.20	6	3,107.20		
2010	13	6,682.30	13	6,682.30		
2011	81	27,408.80	76	27,076.60	5	332.20
2012	79	33,296.70	61	28,194.70	18	5,102.00
2013	5	2,582.50	4	2,299.50	1	283.00
2014	13	4,366.80	5	2,419.80	8	1,947.00
2015	53	22,484.70	30	18,998.50	23	3,486.20
2016	42	8,445.80	30	8,401.90	12	43.90
2017	6	3,777.60	6	3,777.60		
2018	54	34,421.10	54	34,421.10		
2019	109	45,929.50	109	45,929.50		
2020	18	5,030.90	18	5,030.90		
Total*	515	215,519.85	448	204,325.55	67	11,194.30



Data aggregation methods	• No Exploration Results reported.
Relationship between mineralisation widths and intercept lengths	• Drill holes regularly surveyed for deviation, and real in situ bedding orientation obtained from downhole ABI (acoustic borehole imaging) geophysical surveys. • Based on drilling techniques and sub horizontal stratigraphy, the mineralisation intercepts approximate true thickness.
Diagrams	 Figure 1. Exploratory License map

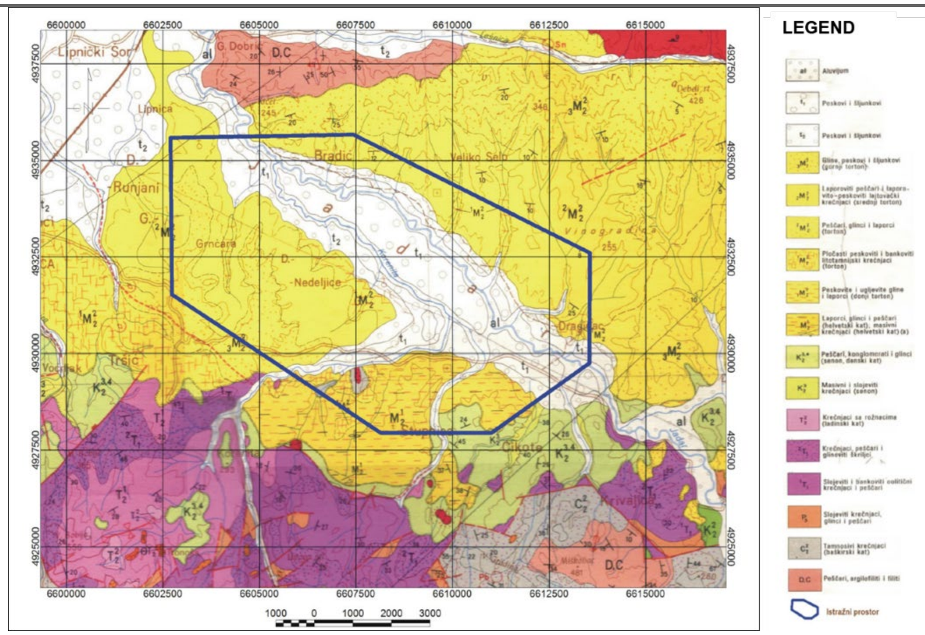


Figure 2. Jadar basin geological map *(based on SFRY General Geological Map 1:100,000)*

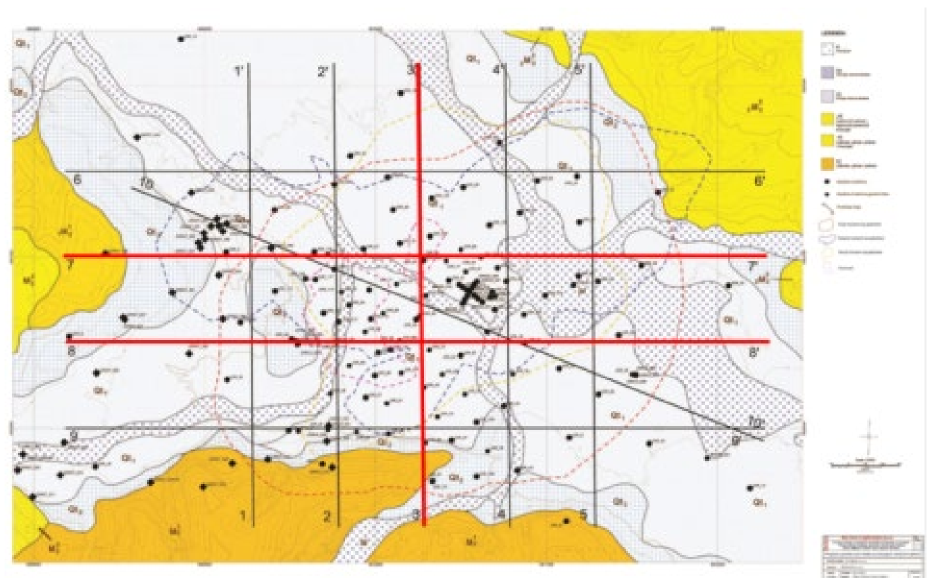
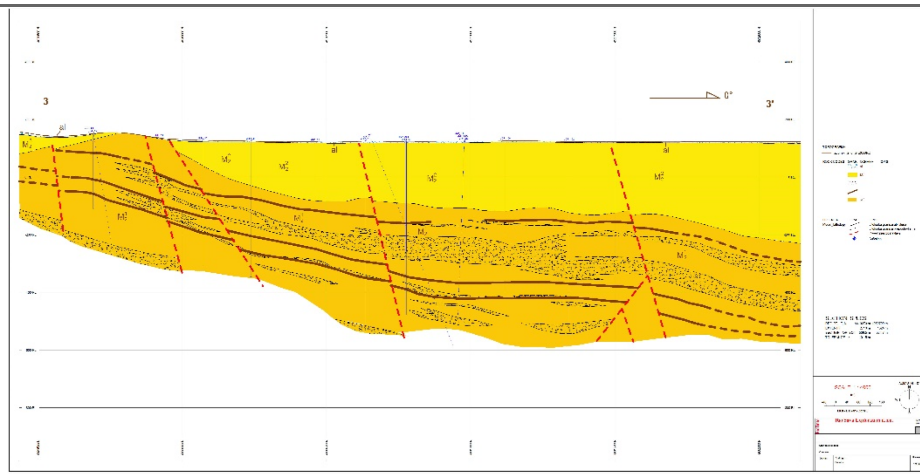
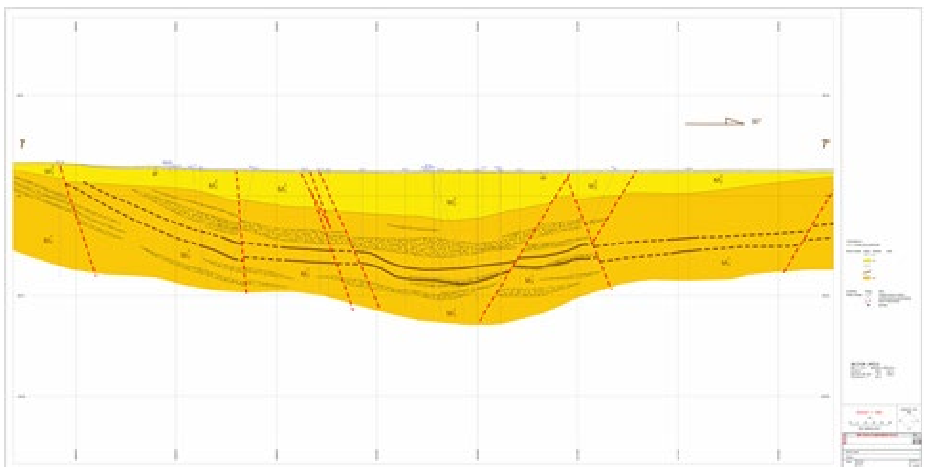
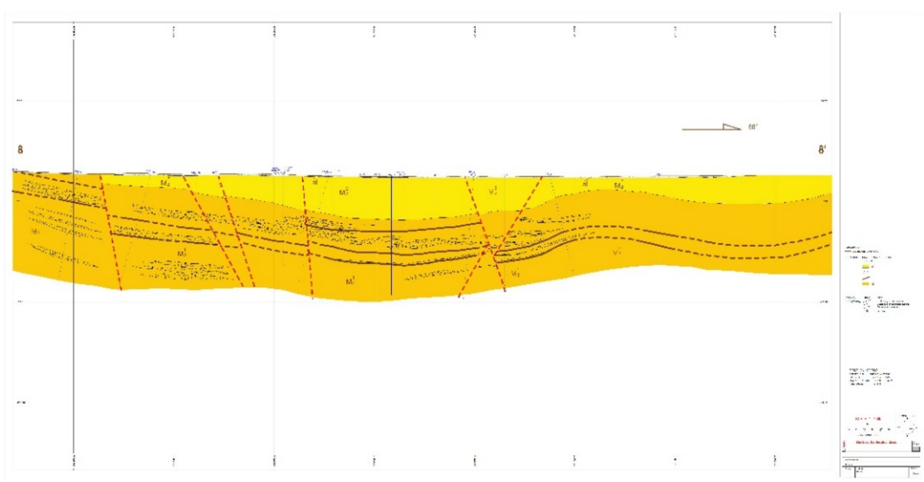


Figure 3. Deposit geological map and cross sections 3, 7 and 8

	  
Balanced reporting	• Not applicable. There are no specifically released Exploration Results for Jadar deposit.

Other substantive exploration data	• In addition to drilling, ground magnetic, 2D test seismic line and full 3D seismic surveys have been completed since 2004 to identify faults, possible dykes, and alluvial limits. • During the early exploration stage (pre-2007), geophysical surveys were conducted over a wider area including gravity, magneto-telluric and magnetic techniques, providing initial information about Jadar basin basement depth. • Early in 2015 a 2D Seismic test line (2.2 km) was carried out across the central part of deposit to determine ground response and optimum seismic layout parameters and energy source for a later 3D seismic survey. • In the summer of 2015 a 3D seismic survey, within an area of approx. 10.5 km^2 (covering planned decline area, central part of deposit as well as a jadarite intercept on the north (JDR_122)), was carried out. First results of 3D seismic data processing and interpretation provided additional information enhancing confidence in the continuity of the stratigraphic unit's, subsurface structures and identification of the main faults position and orientation. • Calgary based consultant Earth Signal Processing (ESP) reprocessed 3D seismic data in June 2017 to enhance resolution for the lacustrine section, resulting in a much crispier and continuous image. This reprocessed and depth migrated 3D seismic cube provided by ESP was used for subsequent structural interpretation updates.
Further work	• The deposit is clearly defined through drilling. Limited potential remains for resource extension of the Lower Jadarite Zone to the north, but this is unlikely to affect significantly the overall resource tonnage.

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SECTION 3 ESTIMATION AND REPORTING OF MINERAL RESOURCES

Criteria	Commentary
Database integrity	• All drill hole data are securely stored in the Jadar Project acQuire database that is located in the Belgrade office server. The server is backed up daily. • All data transfer to the acQuire database is in digital form, and has been verified and validated by the database geologist and exploration geologists. Additional automated validation checks have also been incorporated into the acQuire logging modules. As a result of the above validation checks, the likelihood of transcription or keying errors in the final resource database is low for subsequent resource estimation. • All resource data extracted from the Jadar Project acQuire database are further checked by the resource geologist for consistency and completeness prior to resource modelling and grade estimation.
Site visits	• The Jadar Competent Persons have visited the Jadar Project regularly in previous years, the latest site visit being December 2019, with earlier quarterly visits in 2019. The site visits typically included the Belgrade office, and the drilling operations, core shed and sample prep lab facilities on site.
Geological interpretation	• The lithostratigraphic model is well understood, and is considered to be robust: ○ Detailed logging from drilling with variable data density supports the lithostratigraphic interpretation. The lithostratigraphy from the Lower Jadarite Zone to surface has been logged and modelled as 2D wireframe surfaces and 3D volumes. ○ Volcanoclastic material in the form of tuffs, tuffaceous sandstones and pyroclastic fragments provide useful marker horizons for grade modelling and resource estimation. • The structural model at Jadar is complex but is considered to be at a stage of development that is appropriate for PFS and associated mining studies: ○ The main basin scale structural faults displacing the mineralised domains during and post deposition have been identified. Major faulting appears to be a combination of plastic deformation and fault displacement based on seismic interpretations and drill core orientation angles. ○ Minor faulting (<10 m) at the scale of mining are considered to be less well understood, many of these faults are not yet in the current structural model. These structures are largely below the vertical resolution of the 3D seismic survey and their presence is noted from the structural logs and stratigraphic correlations. • The jadarite and borate mineralisation has been modelled in three separate horizons: ○ Lower Jadarite Zone (LJZ) - thickness: 1 m – 50 m ○ Middle Jadarite Zone (MJZ) - thickness: 1 m – 20 m ○ Upper Jadarite Zone (UJZ) - thickness: 1 m – 15 m • The horizontal and vertical spatial distribution of the tabular jadarite and sodium borates (NaBo) is well understood and modelled using currently available drilling, and has resulted in robust 3D wireframes for the jadarite and borate mineralisation. • The 3D mineralised wireframes used to constrain grade estimation have been defined using a US$300/tonne contained metal value cut-off grade (COG). This cut-off defines a hard boundary between lower-grades and higher-grade material as evidenced in the statistical analysis and grade histograms', and further supported by contact analysis studies. • The contained metal value cut-off grade (COG) is based on a US dollar value calculated

	using Rio Tinto price curves for lithium carbonate and boric acid.
Dimensions	• Jadarite mineralization is found in a continuous area of approximately 3 km west-east by 2.5 km north-south, and at depths from about 100 m to 720 m below surface. • The Jadar deposit is sub-divided in three major zones known as the Upper, Middle and Lower Jadarite Zones (UJZ, MJZ and LJZ), of which the LJZ is the most laterally continuous and homogeneous in grade and thickness. As such, it is the basis for the economic study of the project at this stage and contributes to all reported Mineral Resources. • Jadarite mineralisation in the LJZ occurs as a lens shaped orebody with an average thickness of approx. 15 m (ranging in thickness from 2 m to 50 m). It occurs with economic concentrations from approximately 300 m to 720 m below surface in the studied area.
Estimation and modelling techniques	• The estimation process was completed using the Maptek Vulcan geological modelling and Geovariances Isatis geostatistical software packages. The "unfolding" option in Vulcan was used to account for the undulating jadarite and borate mineralisation, and to preserve grade variations in the vertical direction. • Mineralised domains and background mineralisation were estimated in 3D space using ordinary kriging with up to four estimation passes to account for the highly variable nature of the drilling density that ranges from 25 m to over 150 m in plan view. • A parent block size of 20 m (X) by 20 m (Y) by 2 m (Z) was used for grade estimation. No sub-celling was used in the block model. Current block size was selected as a result of drill hole spacing, and geometric constraints with modelling of the LJZ mineralisation. When evaluating the parent block size, consideration was also given to integrating the hydrogeological and geotechnical models with the resource model for mine planning purposes. • Data was composited to 2 m, the same interval as the parent block thickness in the vertical direction. The 2 m composites were selected from the 1 m raw assay data to remove unwanted variability in the vertical direction. Larger composite intervals were not evaluated, as they would exceed the vertical dimensions of the parent block in the block model. • Statistical and variography studies were undertaken using the Isatis geostatistical software package and confirmed that the geostatistical approach to grade estimation was appropriate. No grade cutting was required for either jadarite or borate mineralisation and there are no grade outliers which might unduly bias the local grade estimates. • Grade estimates were constrained laterally within a boundary polygon that contains the majority of drill holes from the resource database. Grade estimates were not extrapolated outside of this polygon. Grade estimation parameters were optimized using Kriging Neighbourhood Analysis (KNA) studies, taking into account data density, kriging variance, and minimum and maximum numbers of samples. • Block model validation included visual inspection of block grades against composites, composite statistics versus block grades by domain, and Swath plots. Check estimates (inverse distance squared – ID2) were undertaken on the economic variables Li_2O and B_2O_3 only. Approximately 20 sensitivity resource block models were generated around the preferred resource estimate by adjusting block sizes, geostatistical parameters and estimation methodologies, that confirmed the centrality of the preferred resource model. There are currently no production statistics for reconciliation studies.
Moisture	• All density, tonnages and grades are estimated on a dry basis (drying for 30 hours at just under 60ºC).
Cut-off parameters	• The contained metal value cut-off grade (COG) of US$300/t for the geological interpretation has also been applied to the Mineral Resource reporting. This COG defines a natural hard boundary between higher and lower lithium hosted within jadarite

	mineralization. The sharp hanging wall and footwall grade boundaries preclude the addition of significant global tonnes to the resource. • Rio Tinto applies a common process to the generation of commodity prices across the group. This involves generation of long-term price curves based on current sales contracts, industry capacity analysis, global commodity consumption and economic growth trends. In this process, a price curve rather than a single price point is used to develop estimates of mine returns over the life of the project. The detail of this process and of the price point curves is commercially sensitive and is not disclosed.
Mining factors or assumptions	• Underground mining layouts utilize a variety of underground panel and stope designs for the Jadar Project. • No assumptions were made regarding modelling of selective mining units, within the geological modelling process as these are incorporated in the mine design process. • No minimum ore thicknesses were assumed in the modelling of the jadarite mineralisation to allow mine optimisation. • In the central area of the LJZ, mineralised thickness varies between 3 m and 50 m, with an average thickness of around 15 m. The assessment of internal dilution is dependent on the mining cut-off grade and will be evaluated during the economic assessment of the material for underground mining.
Metallurgical factors or assumptions	• The pilot plant test-work on bulk samples from LJZ has been successful in achieving the separation of jadarite particles from the fine-grained matrix, then dissolution in acid and refining to produce market-quality lithium carbonate and boric acid products. • There is a viable route to economically process the jadarite mineralisation, confirmed by the latest pilot processing tests, including costs and recoveries.
Environmental factors or assumptions	• No major issues have been reported that could potentially impact on the potential economics of the Mineral Resource. See Reserve section for further detail.
Bulk density	• Dry Bulk Density (DBD) measurements are determined by the water displacement method on uncoated core. • The drill hole core condition is generally good, with high percentage core recoveries. Observed voids in the core are rare; as a result, core density is considered to be a reliable estimator of dry bulk in-situ density. • Dry bulk density measurements have been validated by external laboratory test work. • Total of 16,821 dry bulk density estimates are in the resource database. • Density values have been estimated into the block model using the inverse distance estimation method.

Classification	• The Jadar resource model for the LJZ has been reported as Indicated and Inferred Mineral Resource categories.
	• The Jadar Mineral Resource category determination is based on a number of factors:
	  ○ Confidence in the robust resource data for the Jadar Project
	  ○ Drill hole density in the LJZ, with Indicated Mineral Resources having drill hole spacing less than 150 m.
	  ○ Slope of Regression geostatistical parameter for individual block confidence to support drill hole spacing for resource classification.
	  ○ Geological continuity and confidence in the structural model supported by detailed lithological modelling work.
	  ○ Grade continuity based on the semivariogram and sectional interpretations, that

	indicates a high degree of continuity of grade within the LJZ. ○ Only LJZ has been classified as Mineral Resource based on completed studies. Additional processing test work for the MJZ will be conducted to improve MJZ resource confidence. • The Competent Person is satisfied that the stated Mineral Resource classification accurately reflects the data quality and distribution, interpreted geological and structural controls, and confidence in the grade estimates.
Audits or reviews	• All work has been internally peer reviewed by appropriately qualified persons within Rio Tinto. • Jadar Project has had three external audits completed in the past eight years: ○ An audit in October 2011 conducted by SRK (Rio Tinto Corporate Assurance QAQC Internal Audit Report - Dec. 2011). ○ An audit in September 2016 conducted by SRK (Rio Tinto Group Internal Audit Resources and Reserves Internal Audit Report – Oct. 2016). ○ An audit conducted in December 2018 by AMC (Rio Tinto Group Internal Resource *and Reserve (R&R) Internal Audit Report – Dec. 2018*). • The 2016 audit covered two main components: ○ Data collection component (all field, core-shed and office activities related to the so-called “Core to Model” procedures C2M). ○ Resource estimation component (resource estimation block model BM 4.1). • The 2016 audit concluded that the fundamental data collection and resource estimation techniques are appropriate and overall internal audit rating is ‘Satisfactory’. No technical findings related to the resource estimation process were identified. Two low rated findings were identified relating to procedural issues, these have now been addressed. • The 2018 audit overall internal audit for the Jadar estimation processes used as part of the PFS is rated ‘Good’. No adverse ‘Findings’ were identified during the audit.
Discussion of relative accuracy/ confidence	• There is a high level of confidence in the reported global estimates of the tonnes and grades for the Jadar Mineral Resources due to observed grade and geological continuity of the jadarite and borate mineralisation. • Inferred Mineral Resource estimates are generally based on drill hole spacing greater than 150 m, and block grades should be considered as smoothed given the relatively small block size of 20 m (X) by 20 m (Y) by 2 m (Z). • Due to uncertainties in the structural model there may be structural disturbance at the scale of mining that have not been identified in the current structural model. The 3D seismic interpretation and orientated core data are being used assist in resolving these issues and improve confidence in the structural model. • Grade estimation has been improved by the use of 3D wireframe domains to constrain the grade estimates. Wireframes are based on a US$300 contained metal value cut-off grade. • Accuracy and confidence of Mineral Resource estimation estimate has been accepted by the Competent Person.

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SECTION 4 ESTIMATION AND REPORTING OF ORE RESERVES

Criteria	Commentary
Mineral Resource estimate for conversion to Ore Reserves	• The basis of the Ore Reserve estimate is the Lower Jadarite Zone (LJZ) and adjacent blocks estimated in Jadar block model BM5.03. • Mineral Resources are reported exclusive of Ore Reserves.
Site visits	• The Competent Person for Ore Reserves has visited the Jadar Project (the "Project") in 2018 and 2019.
Study status	• The Project is at a Pre-feasibility study level (PFS) and meets, or exceeds, industry standards and Rio Tinto's internal guidelines for this level of study (PFS).
Cut-off parameters	• Stope outlines were generated using the Deswik® Stope Optimisation (SO) process at the selected mining cut-off value. The mining cut-off value was selected to maximise project NPV and was developed using the project economic model financial drivers. The sharp hanging wall and footwall grade boundaries preclude the addition of significant global tonnes to the optimisation process. • Block value is calculated for each cell as the sum of the estimated recoverable revenue for lithium carbonate, boric acid and sodium sulphate. The recoverable revenue is utilised as the goal variable in the stope optimiser process.
Mining factors or assumptions	• The orebody will be extracted using underground mining methods. Mining outlines, or panels, were generated using the Deswik SO module. The panels were generated on regular grids within each structural zone. Internal to these panels, individual mining stopes and associated development accesses are created for interrogation and scheduling. The following parameters were applied in the SO process: • Target recovered value ○ Average panel width – 60 m ○ Average pillar width – 40 m ○ Minimum panel height – 4 m ○ Maximum panel height – 100 m (limited by orebody extent) ○ Panel roof and floor angles can vary on strike and dip by ± 5°. • Mechanised mining methods have been developed to meet the variability in strike and dip direction, and mining widths and low rock strengths of the LJZ. Stopes are designed at 8 m width and will extract in lengths of either 20 m or 60 m, a variable on stope sidewall hydraulic radius. • To manage geotechnical conditions in abutment loading, a combination of continuous retreat mining sequence, backfill and inter-panel pillars will be utilised. The paste fill plant uses a combination of site generated residues and imported aggregates, with a design flowrate of 165 m3/h. The combination of pillars and paste backfill will limit surface subsidence to manageable levels. Ground support in development comprises fibrecrete, resin bolts and mesh. Cable bolting is utilised at intersections, access development and within the production drives. • The underground mine will be accessed via a twin shaft system located outside the Jadar River floodplain to southwest of the LJZ. The main production shaft will be 8.5 m diameter and equipped with two 9-tonne skips capable of hoisting a peak 7,200 t/day of ore and waste. The main level on the production shaft is at – 217 mRL. The top of the LJZ is at -110 mRL on the southwest to southeast edge of the orebody and extends to about -580 mRL to the north. Access to the western and norther zones is from the Main

	100 Series decline. Access to the southern and eastern zones is via the Main 200 Series ramp, and 300 Series and 400 Series declines. • During the production phase ore and waste will be stockpiled close to the working areas before being loaded into trucks and hauled to stockpiles or tipped directly into ore bins close to the shaft. Each bin will be equipped with a grizzly and a rock breaker and will be connected to the skip loading pockets using a slewing conveyor. Waste will be stockpiled before being trammed to an ore bin and hoisted to surface when the ore bin is empty. • The rock at Jadar is classified as Weak Rock (5–25 MPa uniaxial compressive strength) and on average UCS of approximately 20 MPa. Rock mass characterisation has been assessed using industry accepted classification methods including Rock Quality Designation, Geological Strength Index and the Q-System. Detailed numerical modelling has been completed to assess the stability of excavations and sequence across the life of mine. The modelling has included detailed tunnel scale and stope modelling as well as modelling of the life of mine covering the PFS mine design including the planned mining sequence. Modelling shows that tunnel deformation is expected due to the soft nature of the rock; however, support systems and sequencing allow these conditions to be managed. • The Probable Ore Reserve covers a footprint of approximately 0.44 km2 of the total LJZ footprint which is about 3.4 km2. The Elaborate of Resources and Reserves (ERR) schedule submitted to the Serbian Government includes material derived from an Inferred Mineral Resource. Due to the position of the twin shafts shaft and access development, it is not practical to develop a mine schedule based on Indicated Resources only.
Metallurgical factors or assumptions	• Development of the flowsheet to process the jadarite mineralised material has been accompanied by extensive laboratory testwork and piloting over a period of approximately ten years. The flowsheet incorporates standard unit operations arranged in a manner to suit the unique lithium and boron mineralogy associated with the Jadar resource and consists of three main sections: 1. Comminution and beneficiation to produce a jadarite concentrate. 2. Hydrometallurgical processing of the jadarite concentrate to produce unrefined lithium carbonate, technical grade boric acid and anhydrous sodium sulfate. 3. Bi-carbonation of the unrefined lithium carbonate to produce battery grade lithium carbonate. • Comminution and beneficiation involves a relatively simple circuit, taking advantage of the hardness differential between the hard jadarite particles and the much softer host rock to produce a 4 mm/+0.2 mm jadarite concentrate, with the -0.2 mm fraction rejected as beneficiation residue. The circuit comprises conventional comminution and classification unit operations, including a high pressure grinding roll (HPGR) which is the key unit operation in this section. The HPGR combines two functions; fine crushing and host rock attritioning to concentrate the gangue minerals detrimental to the hydrometallurgical process into the -0.2 mm fraction. HPGR testing has been performed in a near commercial-scale unit, using a range of ore composites generated from various size drill core across the resource to understand the behaviour of jadarite mineralised material. Jadarite concentrate generated is then used in subsequent hydrometallurgical process testwork and piloting. • Hydrometallurgical processing involves the initial digestion (leaching) of the concentrate using sulfuric acid. Jadarite can be digested in a dilute sulfuric acid solution; it does not require calcination as a pre-treatment. The consumption of sulfuric acid is predictable with negligible chemical reaction of most gangue minerals - apart from a portion of the carbonates and soluble chlorides. This allows the downstream processing of the pregnant liquor produced from the digestion stage to be a combination of conventional boric acid, lithium carbonate and anhydrous sodium sulfate production processes. • The hydrometallurgical process has been successfully piloted in three separate campaigns at a scale of 5 to 8 kg/h-concentrate in continuous closed circuit mode. The

	campaigns successfully produced unrefined lithium carbonate, boric acid and sodium sulfate at target recoveries without the build-up of detrimental species. • A large portion of the unrefined lithium carbonate produced in the piloting was refined in a separate small-scale continuous testing campaign via a standard bicarbonation process to produce battery grade lithium carbonate. • The hydrometallurgical process produces two solid wastes as filter cakes - digestion residue and liming residue - and one liquid effluent – a process bleed stream for chloride control. The coarse portions of the beneficiation and digestion residue will be utilised as part of the mine backfill. The remaining digestion residue and the liming residue will be blended with filtered beneficiation residue, partially dried then stacked in filtered residue storage facility. The process bleed stream will be treated to produce water for re-use in the process and a brine to incorporate in the mine backfill as a sink for chloride. If necessary, excess rainfall is treated via reverse osmosis and ion exchange before discharging clean water to the Jadar River. Saline groundwater inflow to the mine is pumped out and treated via reverse osmosis to produce clean water used in the plant. The remaining brine is evaporated to convert it to a solid waste for disposal.
Environmental	• The Jadar Project is located in a rural area, with agriculture as the primary land use and minimal industrial development. The Serbian Ministry of Environment has approved and signed the Strategic Environmental Assessment. This major approval is a basis for the full scoping of the Serbian Environmental Impact Assessment. Numerous environmental studies have been completed or commenced that support the Environmental Impact Assessment, the Environmental Design Criteria, disposal of process residue storage and waste dumps and the future operations of the mine.
Infrastructure	• The Project area is close to the city of Loznica located 140 km southwest of Belgrade. The area is serviced by sealed highways and roads, grid power and rail, with tie-in required to the site facilities. The waste management strategy includes a filter cake residue storage placed in the North Plant Industrial Waste Landfill located adjacent to the process plant.
Costs	• Cost estimation for the Jadar Project comprises a bottom up Work Breakdown Structure (WBS) assessment for project capital. The project utilises the services of a Tier 1 PMC to coordinate the capital design and estimation process the whole project. This capital profile has been utilised in conjunction with Bottom Up Costing (BUC) for the mining, processing and waste disposal costs. The BUC is full activity based cost model that costs individual labour, consumable and utilities inputs into the mining the process activities. Where appropriate, market engagement or existing internal cost information has been utilised to inform cost and schedule estimates. The model contains all transport costs and includes all royalties and taxes payable in Serbia. • The PFS cost estimate and schedule were prepared in accordance with Rio Tinto guidelines to meet a -15% to +25% accuracy estimate. • All exchange rates, price forecasting and penalty re based upon Rio Tinto internal pricing predictions.
Revenue factors and market assessment	• Mineral prices and exchange rates are based on Rio Tinto's project evaluation guidelines (PEG) at the date of reporting. Rio Tinto's PEG pricing is based on internal analysis of the long-term lithium and boric acid markets.
Economic	• Rio Tinto's Business Analysis division has completed a PFS valuation of Jadar Project using Rio Tinto internal pricing, the life of mine schedule prepared for the PFS, bottom-up capital and operating costs developed by Rio Tinto and taxation and royalties for Serbia. The valuation demonstrated that the Project is value accretive on a standalone basis and cashflow positive based Probable Ore Reserves.
Social	• Rio Tinto has developed strong relationship with the local community and to date there has been general community support for the project.

	• Cultural heritage is well understood with close working relationship with the Museum of Jadar and the Institute for the protection of cultural heritage continue.
Other	• An extensive permitting regime is in place in Serbia for mineral exploitation and the project is progressing though this process. Currently a retention permit for the deposit is held. The adoption of Elaborate of Reserves and Resources will permit the project to submit the application for exploitation which provides mining tenure for the deposit. This permit is expected during the course of the Feasibility Study. • The Government of Serbia has adopted a Spatial Plan for a Special Purpose Area (SPSPA), which covers the project area and acts as a zoning definition to support the industrial nature of the mine and processing facility.
Classification	• The Indicated part of the LJZ Mineral Resource has been classified as a Probable Ore Reserve. The Ore Reserve is inclusive of low value and waste dilution, and ore loss. There is no Measured Resource for the LJZ in the current block model and hence no Proven Ore Reserves. • The results reflect the view of the Competent Persons.
Audits or reviews	• Three Independent Review boards operate to support the Jadar Project these are: 1. Independent Geotechnical Review Board 2. Independent Process Review Board 3. Independent Tailing Review Board • The boards meet at least twice per year to review and audit the project. • The PFS has been subjected to regular internal and external reviews in compliance with Rio Tinto guidelines. The findings of each audit are documented, and issues are addressed by the study team. No material finding currently exist relevant to this declaration.
Discussion of relative accuracy/ confidence	• The PFS is reported at an accuracy level of -15% +25% typical of a Rio Tinto PFS. Residual risks have been identified and high-risk items will be addressed during the Feasibility Study. Monte Carlo simulation has been undertaken on the key cost drivers. • There is a low level of geological confidence associated with Inferred Mineral Resources and there is no certainty that further exploration work will result in the determination of Indicated Mineral Resources or that the production target itself will be realised. The stated production target is based on the entity's current expectations of future results or events and should not be solely relied upon by investors when making investment decisions. Further evaluation work and appropriate studies are required to establish sufficient confidence that this target will be met.

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This announcement is authorised for release to the market by Rio Tinto's Group Company Secretary.