

Increase in Mineral Resource at Kennecott Copper operation following mine life extension studies

17 February 2021

Rio Tinto today announces significant additional Measured, Indicated and Inferred Mineral Resources at the Kennecott Copper operation. These Mineral Resources are contained within the Bingham Canyon copper, gold, and molybdenum porphyry deposit and would be mined by a northerly expansion of the open pit located 41 km southwest of Salt Lake City, Utah (Figure 1). These changes will be included in Rio Tinto's 2020 Annual Report, to be released to the market by 22 February 2021, and are reportable changes compared to those published in the 2019 Annual Report.

Mineral Resources are quoted in this release on a 100 percent basis. Rio Tinto's Ore Reserves and Mineral Resources as at 31 December 2020, and Rio Tinto's interests, are set out in full in its 2020 Annual Report. Mineral Resources are reported in addition to Ore Reserves.

Total Mineral Resource increase reported at an economic margin is 243 Mt at 0.55% copper equivalent (CuEq), an increase of 577%. The additional Mineral Resources potentially add about four years of mine life to the Bingham Canyon open pit if converted to Ore Reserves through additional study. As announced in 2019, work is currently underway to extend production at Kennecott to 2032.

Study work to date supports the expansion of the open pit primarily to the north with no additional deepening of the pit bottom and processing to refined copper, gold, silver and molybdenum concentrates by utilising current Rio Tinto Kennecott (RTK) integrated facilities. Pre-feasibility studies, including infill drilling, continue to refine the mineralisation, geology, structure, geotechnical and metallurgical models of this area of the pit (Figures 2 and 3). These additional Mineral Resources can be mined under existing agreements and approvals. Stripping activities are targeted to begin in three to four years and first production prior to reserves depletion.

Bingham Canyon open pit Mineral Resource additions:

A full tabulation of the changes in Mineral Resource from 2019 to 2020 is provided in Table A, including the additions of Measured, Indicated and Inferred Mineral Resource based on Order of Magnitude (OoM) study open pit phase designs and optimised economic cut-off grade constrained within the resource shell.

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 resource estimation techniques are provided in Appendix A to this release in accordance with the Table 1 checklist in the JORC Code and located at [riotinto.com/financial-news-performance/resources-and-reserves](https://www.riotinto.com/financial-news-performance/resources-and-reserves).

Table A: Mineral Resource changes for Bingham Canyon Open Pit

| | Measured Resources | | | | | |
|-------------------------------|---------------------|----------|--------|----------|--------|----------|
| | Mt | CuEq (%) | Cu (%) | Au (g/t) | Mo (%) | Ag (g/t) |
| Resources at 31 December 2019 | 14 | 0.63 | 0.46 | 0.13 | 0.031 | 1.90 |
| Additions | 114 | 0.66 | 0.46 | 0.25 | 0.018 | 2.15 |
| Resources at 31 December 2020 | 128 | 0.65 | 0.46 | 0.24 | 0.020 | 2.12 |
| | Indicated Resources | | | | | |
| | Mt | CuEq (%) | Cu (%) | Au (g/t) | Mo (%) | Ag (g/t) |
| Resources at 31 December 2019 | 18 | 0.58 | 0.44 | 0.15 | 0.017 | 2.21 |
| Additions | 124 | 0.46 | 0.31 | 0.16 | 0.016 | 1.38 |
| Resources at 31 December 2020 | 142 | 0.46 | 0.33 | 0.16 | 0.016 | 1.48 |
| | Inferred Resources | | | | | |
| | Mt | CuEq (%) | Cu (%) | Au (g/t) | Mo (%) | Ag (g/t) |
| Resources at 31 December 2019 | 11 | 0.36 | 0.22 | 0.24 | 0.003 | 2.18 |
| Additions | 5 | 0.38 | 0.29 | 0.14 | 0.002 | 1.12 |
| Depletions | 1 | 0.18 | 0.13 | 0.07 | 0.002 | 1.25 |
| Resources at 31 December 2020 | 15 | 0.37 | 0.25 | 0.21 | 0.003 | 1.86 |
| | Total Resources | | | | | |
| | Mt | CuEq (%) | Cu (%) | Au (g/t) | Mo (%) | Ag (g/t) |
| Resources at 31 December 2019 | 42 | 0.54 | 0.39 | 0.17 | 0.018 | 2.10 |
| Additions | 244 | 0.55 | 0.38 | 0.20 | 0.017 | 1.73 |
| Depletions | 1 | 0.18 | 0.13 | 0.07 | 0.002 | 1.25 |
| Resources at 31 December 2020 | 285 | 0.54 | 0.38 | 0.20 | 0.017 | 1.79 |

Footnotes:

The Mineral Resource additions for 2020 are constrained within OoM open pit expansion phase designs and have been tabulated based on production schedules using optimised varying economic margin cut-off grades which averaged approximately equal to a 0.25 CuEq% as further explained in Appendix A. Depletions are due to 2020 mining of Inferred Resource within the Bingham Canyon Ore Reserve pit. Copper equivalent is determined using Rio Tinto forward-looking pricing and metallurgical recovery assumptions summarised in Appendix A.

Geology, drilling techniques, and geological interpretation

Figure 1 shows the location of the Bingham Canyon Mine. Figure 2 shows a plan with the location of all drill holes used in the resource evaluation and those contained in the Mineral Resource pushback volume. Figure 3 provides a representative cross section through the pushback

The deposit has been interpreted as a lithologically controlled porphyry copper, gold and molybdenum deposit. Drilling has been carried out over the long history of operation using a combination of diamond and churn drilling methods, with sampling predominantly on a 3 m interval but honouring geological boundaries in the diamond drilled core.

This resource addition is based on the Bingham Canyon resource model that utilises assay results captured from a combination of 1,106 diamond drill (DD) holes and 180 churn drill holes completed throughout the history of operation through to the end of 2019 comprising a total of 692,944 m of drilling. Assays within the resource pushback are from 370 diamond drill (DD) holes completed throughout the history of operation to the end of 2019 comprising a total of 232,857 m drilling.

Sampling, sub-sampling method and sample analysis method

Assays have been carried out on half core and split churn samples. Sample lengths vary from 0.6 to 3.6 m, with 3 m being the most common. Assay techniques have varied over time but most recently use a combination of full acid digest with AES/MS finish and fire assay for gold and silver.

Estimation Methodology

Estimation has been carried out by ordinary kriging for economic elements and density assignments based on rock type and alteration domains. Grades for copper, gold, molybdenite and silver were estimated into parent blocks using Maptek™ Vulcan™ software.

Criteria used for classification

Classification has been carried out after consideration of understanding of the geological genesis model, assay and drilling quality and confidence in estimation parameters. Classification criteria for Measured, Indicated and Inferred Mineral Resources is based on drillhole spacing of less than 91 m, from 91 to 182 m and greater than 182 m and averages 79 m x 79 m, 133 m x 133 m and 276 m x 276 m, respectively.

Cut-off grades and modifying factors

Reasonable prospects for eventual economic extraction have been assessed through mining designs based on Order of Magnitude open pit mining phase designs, optimised Life of Mine (LoM) production scheduling using variable economic margin cut-off grades based on performance of historical metallurgical ore types and operating cost projections and cash flow analysis including estimates for development and sustaining capital.

Copper equivalents have been calculated using the formula $CuEq\% = Cu\% + (((Au\ g/t * Au\ price\ per\ gram * Au_recovery) + (Mo\% * Mo\ price\ per\ tonne * Mo_recovery) + (Ag\ g/t * Ag\ price\ per\ gram * Ag_recovery)) / (Cu\ price\ per\ tonne * Cu_recovery))$. Details of recoveries are shown on an average basis in Appendix A.

Competent Persons' Statement

The information in this report that relates to Mineral Resources is based on information compiled under the supervision of Kim Schroeder and Pancho Rodriguez, Competent Persons who are Members of the Australasian Institute of Mining and Metallurgy (MAusIMM). Kim Schroeder and Pancho Rodriguez are full-time employees of Rio Tinto and have sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity to which they are undertaking to qualify as a Competent Person as defined in the 2012 edition of the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves". Each of Kim Schroeder and Pancho Rodriguez consents to the inclusion in the report of the matters based on the information that he has prepared in the form and context in which it appears.

Figure 1: Rio Tinto Kennecott property and facilities

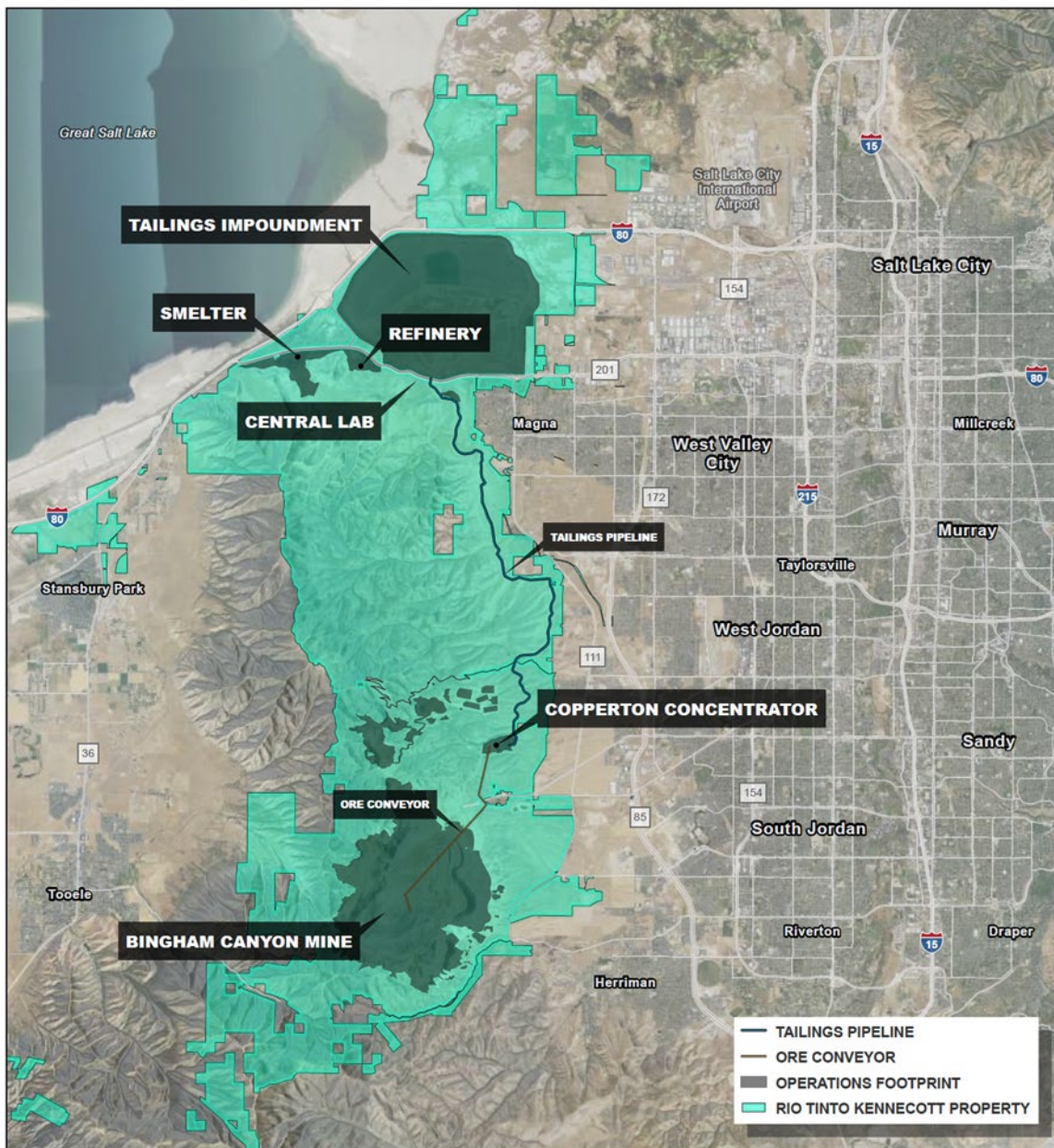


Figure 2: Current pit drill hole intersections including those contained within the new resource

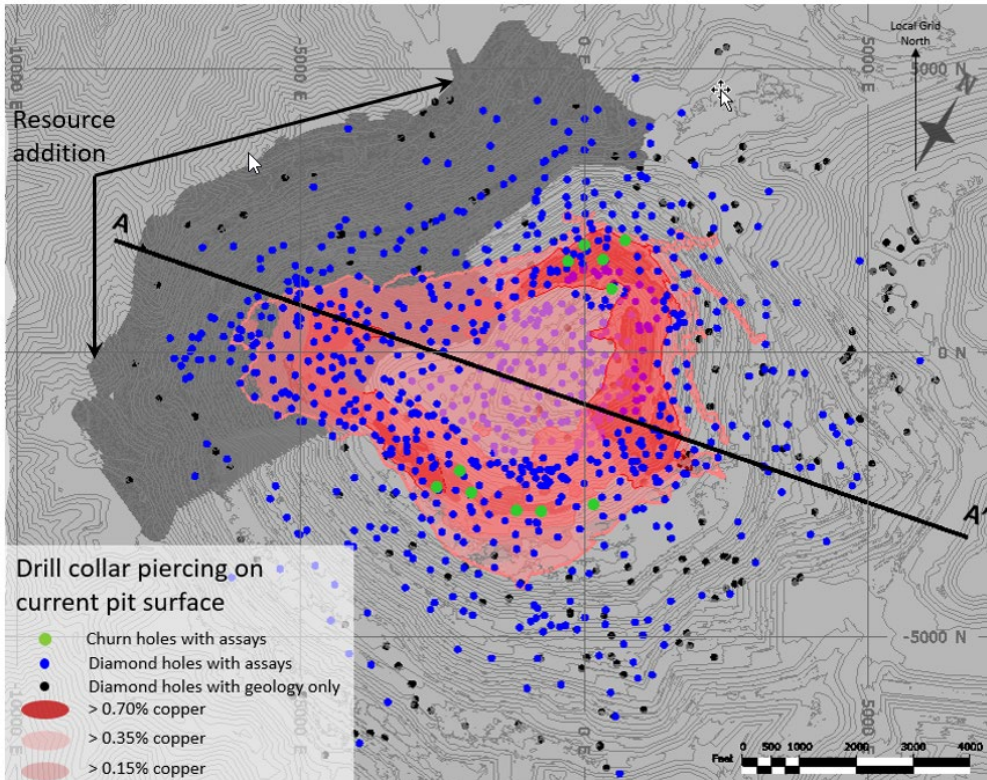
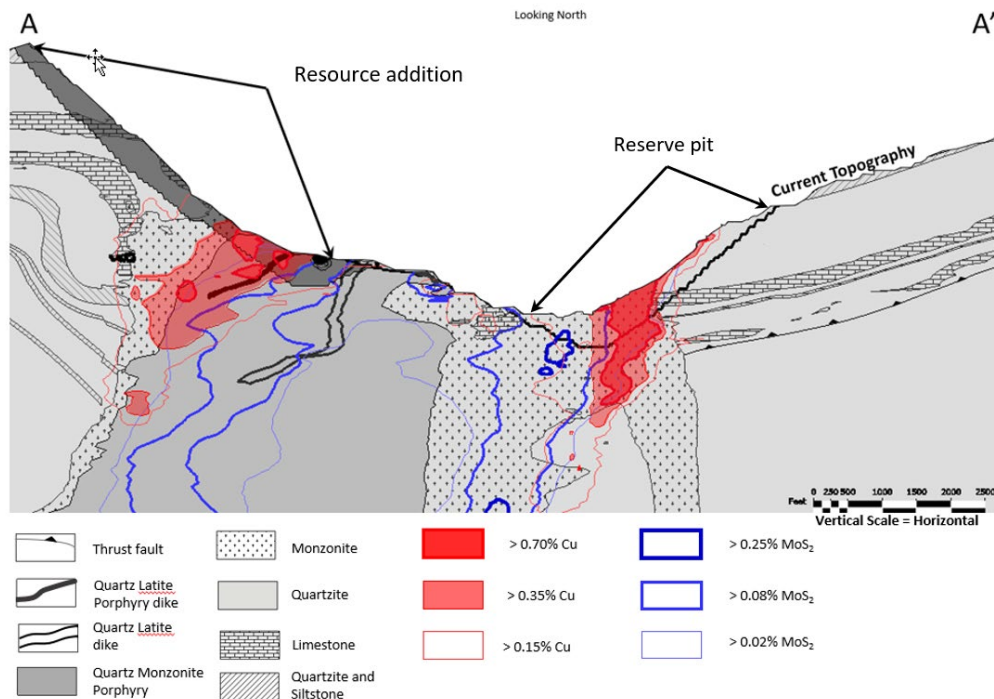


Figure 3: Cross section A-A' through the Bingham Canyon orebody showing the geology, copper and molybdenite mineralisation models.



Footnote: Not all of the mineralisation shown is considered to have the potential for economic extraction; only that subset that is considered potentially economic is tabulated as Mineral Resource.

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

Appendix A: Bingham Canyon open pit addition to Resource: JORC Table 1

The following table provides a summary of important assessment and reporting criteria used at Bingham Canyon for the reporting of the addition of new 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 | <ul style="list-style-type: none"> Sampling techniques related to Mineral Resource estimation have been either churn or diamond drill core. Since the 1950s, all drilling has been diamond core, either as PQ, NQ, or HQ in size. Sample intervals can range from 0.3 to 4 m, with 3 m being the standard length. Core is sawn in half with half the core assayed for Cu, Mo, Ag, and Au. The average core sample is 10 kg, which is then split to 1000 grams (g) for pulverization and a 100 g pulp is generated for assay (30 g for fire assay, 5 g for AA). | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Drilling techniques | <ul style="list-style-type: none"> Drilling data summary: <table border="1" data-bbox="375 884 1433 1120"> <thead> <tr> <th rowspan="2">Year</th> <th colspan="2">Diamond</th> <th colspan="2">Churn</th> </tr> <tr> <th># Holes</th> <th>meters</th> <th># Holes</th> <th>meters</th> </tr> </thead> <tbody> <tr> <td>1906-1979</td> <td>246</td> <td>197,369</td> <td>180</td> <td>49,464</td> </tr> <tr> <td>1980-1999</td> <td>233</td> <td>103,000</td> <td></td> <td></td> </tr> <tr> <td>2000-2009</td> <td>356</td> <td>201,123</td> <td></td> <td></td> </tr> <tr> <td>2010-2018</td> <td>464</td> <td>193,007</td> <td></td> <td></td> </tr> <tr> <td>2018-2019</td> <td>87</td> <td>25,759</td> <td></td> <td></td> </tr> <tr> <td>Total</td> <td>1386</td> <td>720,258</td> <td>180</td> <td>49,464</td> </tr> </tbody> </table> The deposit is defined by a program of churn drilling (6%) from 1910 to 1953 and diamond core drilling (94%) drilled from 1945 to 2019. Size of diamond core is as follows: AX/BX – 12%, NX/NQ – 28%, HQ – 54%, PQ – 6%. Since the end of churn drilling by 1980, the drilling methodology has not changed. | Year | Diamond | | Churn | | # Holes | meters | # Holes | meters | 1906-1979 | 246 | 197,369 | 180 | 49,464 | 1980-1999 | 233 | 103,000 | | | 2000-2009 | 356 | 201,123 | | | 2010-2018 | 464 | 193,007 | | | 2018-2019 | 87 | 25,759 | | | Total | 1386 | 720,258 | 180 | 49,464 |
| Year | Diamond | | Churn | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | # Holes | meters | # Holes | meters | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1906-1979 | 246 | 197,369 | 180 | 49,464 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| 2000-2009 | 356 | 201,123 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2010-2018 | 464 | 193,007 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2018-2019 | 87 | 25,759 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Total | 1386 | 720,258 | 180 | 49,464 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Drill sample recovery | <ul style="list-style-type: none"> Since 1980, the interval length and amount of core recovered has been recorded as part of the standard geotechnical data collection. Drilling methodology has been improved to maximize core recovery. Drilling methods have resulted in 90% of the core with greater than 80% core recovery. The sample recovery methodology has not changed since 2016 when low recovery between drill runs have been assigned to a specific footage, when possible. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Logging | <ul style="list-style-type: none"> Since the 1970s, standardised RTK logging systems have been used for all drilling which includes collection of lithology, alteration, structure, veining and mineralization. Since 1980, the core has been photographed and geotechnically logged; this represents 74% of cored drilled. Since 2008, all drillholes permissible for entry of the instrument are logged using an acoustic televiewer for structure data measurements. The logging methodology has not changed materially since 1980. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Sub-sampling techniques and sample preparation | <ul style="list-style-type: none"> Pre 1980, core was hand split. Since 1980, core has been sawn in half. One half is sent for assay; the other half is stored at RTK. Samples are sent to a commercial lab for preparation and assay. Samples are crushed to minus 2 mm and a 1000 g sample split is pulverized to generate 4 sample pulps. These pulps | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

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| Sub-sampling techniques and sample preparation - continued | <p>are used for a Au assay, a Cu, MoS₂ and Ag assay, and a composite multi-element assay and the fourth is returned to RTK. The sample reject sample material (<2 mm) is returned to RTK.</p> <ul style="list-style-type: none"> • Sampling procedures have been reviewed and audited by external sampling experts, most recently in 2010 (AMEC) with no material findings. • The sub-sampling methodology has not changed since 1980 when core sawing began. |
| Quality of assay data and laboratory tests | <ul style="list-style-type: none"> • Current QA/QC procedures have been in place since 1990. The acQuire data management database system has been used since 2000. • Duplicate samples of the second half of core are generated for every 40th sample. • Matrix matched pulp standards are inserted every 20th sample. • A sample duplicated for the coarse reject material is assayed every 20th sample. For every 20 coarse reject pulp assays, a matrix matched standard is inserted. • Cu, Mo and Ag are assayed by HNO₃-HClO₄-HF-HCl digestion and ICP-AES analysis. Au is assayed by fire assay fusion with an AAS finish for one assay-ton. • The assay methodology has not changed since 2015. Prior to 2015, Cu, Mo and Ag detection was by AAS, since 2015 detection for these metals has been by ICP-AES. Gold assaying has been consistent through this period, by 30g FA-AA. • Analysis of the performance of certified standards, duplicates, blanks and third-party check assaying has indicated an acceptable level of accuracy and precision with no significant bias or contamination. |
| Verification of sampling and assaying | <ul style="list-style-type: none"> • For all intercepts above certain thresholds (2% Cu, 0.4%, MoS₂, 2.83 g/t Au, 2.83 g/t Ag) an additional sample pulp is generated and assayed from the coarse reject material. • Mineral Resource and Ore Reserves standard operating procedures (SOP) document data handling, processing, storage and validation. • There is no adjustment to drillhole assays. There is a lab ranking for samples assayed by more than one lab and the most appropriate assay is stored as the primary assay. • The sample validation methodology remains unchanged since at least 1994. |
| Location of data points | <ul style="list-style-type: none"> • Since 1998, GPS survey is used to locate drillhole collars. Between 1940 and 1998, traditional survey instruments were used to determine collar locations. A local grid system (Bingham Mine grid) is used throughout the mine. The local grid has a counterclockwise rotation of 31.98 degrees from true north. • Down-hole surveys are currently completed by two to three methods: <ul style="list-style-type: none"> ○ Since the 1960s, a single shot or multi shot tool is used to survey all drillholes at 61 metre intervals. ○ Beginning in 2006, selected holes were also surveyed with a magnetometer accompanying an Acoustic Televierer (ATV) instrument. Since 2008 most holes are also surveyed by ATV. ○ Since 1995, a gyro survey tool is used to complete a survey for the entire drillhole length after the drillhole is completed. All surveys are reviewed and generally the gyro method is selected unless the other method(s) indicate that they gyro survey is erroneous. In the latter case the next most accurate survey method is selected and loaded into the database. • Pit topography is kept updated by local surveys that track daily mining advances. |
| Data spacing and distribution | <ul style="list-style-type: none"> • Drill spacing is approximately 90 m to 100 m. • Assay intervals are composited to 8 m for model estimations. |

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| | <ul style="list-style-type: none"> The data spacing and distribution is deemed sufficient by the Competent Person to establish geological and grade continuity appropriate for the Mineral Resource classification that has been applied. |
| Orientation of data in relation to geological structure | <ul style="list-style-type: none"> Both vertical and angled drilling are used to delineate mineralization. Porphyry mineralisation is disseminated and does not display a strong preferred orientation or structural control. Drillhole orientations are designed to best delineate mineralisation, though collar placement is dependent on mine accessibility and must be oriented accordingly. |
| Sample security | <ul style="list-style-type: none"> Laboratory samples are cut and placed onto crates or pallets and transported by locked trucks to a commercial lab for sample preparation and assay. <ul style="list-style-type: none"> A Bolt Seal Chain of Custody form is filled out on-site and includes date, bolt seal number, driver, and any relief drivers. A copy of the Bill of Lading (BOL) and chain of custody form are made and sent with the driver. Upon receipt of cargo, the lab manager will confirm the date and time received, whether the bolt seal was unbroken, and bolt seal number. The lab receiver signs the Chain of Custody and emails a copy to RTK. Individual samples are weighed before shipment and by the receiving commercial lab. Sample weights are cross checked and verified by RTK. Retention of the one half of core and assay pulps are retained in a secure core warehouse in Salt Lake City, Utah |
| Audits or reviews | <ul style="list-style-type: none"> The following reviews have been completed on sampling. <ul style="list-style-type: none"> Rio Tinto Corporate Assurance Internal Audit of Resources and Reserves (2015) Review on the Copper Reconciliation Process at Bingham Canyon Mine (2011) Sampling procedures have been reviewed and audited by external sampling experts, most recently in 2010 (AMEC). Review of Sampling, Sample Preparation and the Central Analytical Laboratory (2009) <p>No material findings were made, and these reviews concluded that the fundamental data collection techniques are appropriate.</p> |

SECTION 2 REPORTING OF EXPLORATION RESULTS

| Criteria | Commentary |
|---|---|
| Mineral tenement and land tenure status | <ul style="list-style-type: none"> The Bingham Canyon Mine is wholly owned by Rio Tinto Kennecott Copper (RTK's legal name is Kennecott Utah Copper LLC). RTK has the authority to mine the mineral resources and ore reserves identified in this document under existing agreements. RTK also acquired a number of mineral leases and unpatented lode mining claims located in Tooele, Salt Lake and Utah Counties from Kennecott Exploration Company in 2020. |
| Exploration done by other parties | <ul style="list-style-type: none"> Various companies since 1870 have worked around the core of the RTK holdings. As properties were acquired, exploration information was obtained and incorporated into the ore body knowledge. Since 2009, Rio Tinto Exploration has performed brownfield exploration near the deposit. |
| Geology | <ul style="list-style-type: none"> The Bingham Canyon deposit is a classic porphyry copper deposit containing economic values of copper, molybdenum, gold, silver, and historic lead and zinc production. Peripheral |

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| | <p>copper-gold skarns, lead-zinc fissures, and disseminated gold deposits are also associated with this copper porphyry system. The most recent publication devoted to this deposit is contained in the Society of Economic Geologist, Inc, 2012, Special Publ. # 16, pp. 127-146. The deposit has been extensively studied both economically and academically over the past 100 years and is considered as a deposit that defines copper porphyry systems.</p> |
| Drillhole Information | <ul style="list-style-type: none"> • Exploration results have not been reported separately; therefore, this criteria category is not applicable. |
| Data aggregation methods | <ul style="list-style-type: none"> • Exploration results have not been reported separately; therefore, this criteria category is not applicable. |
| Relationship between mineralisation, widths and intercept lengths | <ul style="list-style-type: none"> • Down-hole intercepts are reported as true width due to disseminated mineralisation that has no preferred orientation. |
| Diagrams | <ul style="list-style-type: none"> • RTK location, facilities and property boundaries are shown in Figure 1 in the body of this Notice to ASX. • Plan map of drill hole collars intersecting the current pit are shown in Figure 2 in the body of this Notice to ASX. • Geology and mineralization is shown on a cross section in Figure 3 in the body of this Notice to ASX. |
| Balanced reporting | <ul style="list-style-type: none"> • Exploration results have not been reported separately; therefore, this criteria category is not applicable. |
| Other substantive exploration data | <ul style="list-style-type: none"> • Not applicable. |
| Further work | <ul style="list-style-type: none"> • Studies continue to evaluate the potential to mine the extensive porphyry and skarn mineralisation beyond currently reported Mineral Resource and Ore Reserve ultimate pit. |

SECTION 3 ESTIMATION AND REPORTING OF MINERAL RESOURCES

| Criteria | Commentary |
|---------------------------|---|
| Database integrity | <ul style="list-style-type: none"> • All drilling data is securely stored in acQuire™, a geoscientific information management system managed by a dedicated team within RTK. The system is backed up daily. • Estimation data is digitally compared to the data extracted for the previous model to check data integrity. • All collar, survey, assay and geology data loaded to the database are manually verified against original documents. Validation is documented with signoff documents and included as part of the annual Mineral Resource model documentation. • The database access is controlled and managed by the Geology department. • The database includes data validation for text-based and numeric fields. |
| Site visits | <ul style="list-style-type: none"> • Mineral Resource Competent Persons are located on site. |
| Geological interpretation | <ul style="list-style-type: none"> • There is high confidence in the geologic interpretation. Past mining has created over 1.3 km of vertical geologic exposures. Geologic mapping has been collected since 1926. • Drilling and pit mapping is used to build the geologic model. |

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| | <ul style="list-style-type: none"> Grade estimation is controlled by domains defined based on geology, alteration and structure. |
| Dimensions | <ul style="list-style-type: none"> The deposit is contained within a 4.5 km x 4.5 km area with a maximum thickness of 900 m and average overburden cover of 800 m. |
| Estimation and modelling techniques | <ul style="list-style-type: none"> For variography estimation domains of grade zone, limb zones (mineralisation trends) and rock type are recombined as necessary to provide spatial continuity analyses; the typical approach is to recombine grade zones and limb zones, leaving rock type as the consistent limiting variable. Domain boundaries are treated as soft, meaning that composites from adjacent grade zones can be used in estimation. Copper, molybdenite, gold and silver are estimated by a pass of ordinary kriging (OK) followed by a “fill-in” pass of simple kriging (SK) that uses a localised, declustered mean. Blocks that are not estimated after this secondary pass are populated with the mean estimated (from pass 1 and 2) for that domain. Search ellipses were determined by calculating the range at specified percentages of the variogram sill and using the orientation of the anisotropic ellipse. For the OK pass, 95% of the sill is used. An SK pass is used at the range of the sill, beyond which any estimation will be using uncorrelated data and hence is assigned the average estimated grade. The data had been composited to 8 m for Mineral Resource estimation to reduce grade variability and reflect the massive style of mineralization. Outlier analysis was completed on the grade zone/rock type breakdown to determine the most appropriate (spatially and statistically) thresholds. Outliers are preferentially controlled by a “High Yield Restriction” ellipse. The range at 60% of the sill is used for high-grade restriction, beyond which a sample cannot be used for a block’s estimation. The estimate uses boundary analysis contact plots to create a contact matrix and assignment of a variography grouping. Estimation is into parent blocks of 15 mE × 15 mN × 15 mRL Blastholes are also used to define the four grade zones for each metal but not for estimation. Talc, arsenic, clay, bismuth, sulphur are also estimated for mine planning purposes. For Mo, resource model grades are factored based on historical reconciliations between exploration assays and mill sample assays. These relationships were updated in 2020. <p>The following validation was carried out on the 2020 resource model and showed that the model validates well against the input data and historical production:</p> <ul style="list-style-type: none"> All spatial and geostatistical validation is performed against a declustered model (nearest neighbour estimation) and includes; <ul style="list-style-type: none"> Swath plot analysis to check for trends in data/estimates and evaluate smoothing Histogram comparison to check on variance of data versus estimation (smoothing) Cumulative frequency comparison to evaluate smoothness of the model, variance, and bias Grade-tonnage curves to assess metal-at-risk QQ plots to evaluate bias in models versus the declustered database |

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| Estimation and modelling techniques - continued | <ul style="list-style-type: none"> • Validation is focused on 4 separate volumes: <ul style="list-style-type: none"> ○ Reserve pit shell. ○ A “proxy” slice volume; an ore volume designed to mimic the present pushbacks but within historic mining to provide a contextual as-mined/backwards-looking comparison. To be evaluated against BBA to establish predictive capability. ○ Monthly reconciliation polygons, processed from actual mining. These values are compared against monthly concentrator reporting to evaluate the accuracy of the models within ore shapes. <p>New resource pit shell.</p> |
| Moisture | <ul style="list-style-type: none"> • All Mineral Resource tonnages are estimated and reported on a dry basis. |
| Cut-off parameters | <ul style="list-style-type: none"> • Optimised Life of Mine production scheduling of phased mining designs using variable economic marginal cut-off grades based on performance of historical metallurgical ore types, product metals, operating cost projections and metal prices which averaged approximately equal to a 0.25 CuEq%. • Metal prices used are provided by Rio Tinto Economics and are generated based on industry capacity analysis, global commodity consumption and economic growth trends. A single long term price point is used in the definition of ore and waste and in the financial evaluations underpinning the resources statement. The detail of this process and of the price points selected are commercially sensitive and are not disclosed. • Operating costs are informed by current operations. • It is the company’s opinion that all the elements included in the metal equivalent calculation have a reasonable potential to be recovered by RTK’s milling, smelting and refining facilities and sold. • Average grades for the individual metals included in the metal equivalent calculation are shown in the Mineral Resource tabulations. • Copper equivalents have been calculated using the formula $CuEq\% = Cu\% + (((Au\ g/t * Au\ price\ per\ gram * Au_recovery) + (Mo\% * Mo\ price\ per\ tonne * Mo_recovery) + (Ag\ g/t * Ag\ price\ per\ gram * Ag_recovery)) / (Cu\ price\ per\ tonne * Cu_recovery))$. |
| Mining factors or assumptions | <ul style="list-style-type: none"> • The estimate assumes the continuation of open pit mining using the existing mining fleet • Reasonable prospects for eventual economic extraction have been assessed through mining designs based on Order of Magnitude open pit mining phase designs, optimised Life of Mine (LoM) production scheduling using variable economic marginal cut-off grades based on performance of historical metallurgical ore types and operating cost projections and cash flow analysis including estimates for development and sustaining capital. • Based on historical performance, no recovery and dilution factors are applied in the estimation. |
| Metallurgical factors or assumptions | <ul style="list-style-type: none"> • The metallurgical processes have been developed and optimized based on the long operating history of the deposit. • All process performance parameters (recoveries, concentrate grades including deleterious elements) are based on historical metallurgical test performance of 44 ore types. |

| | <ul style="list-style-type: none"> • Several decades of mineralogy characterisation work concludes that the deposit continues to be of a similar nature to the existing operation. • Average metallurgical recoveries for the resource additions used to calculate CuEq%: <table border="1" data-bbox="539 353 877 425"> <thead> <tr> <th>%Cu</th> <th>%Au</th> <th>%Mo</th> <th>%Ag</th> </tr> </thead> <tbody> <tr> <td>89</td> <td>70</td> <td>71</td> <td>74</td> </tr> </tbody> </table> | %Cu | %Au | %Mo | %Ag | 89 | 70 | 71 | 74 |
|--|--|-----|-----|-----|-----|----|----|----|----|
| %Cu | %Au | %Mo | %Ag | | | | | | |
| 89 | 70 | 71 | 74 | | | | | | |
| Environmental factors or assumptions | <ul style="list-style-type: none"> • The Bingham mine is an historical operation managed under Utah regulatory approval. All approvals and permits necessary to mine the Mineral Resources have been obtained and are expected to be maintained. | | | | | | | | |
| Bulk density | <ul style="list-style-type: none"> • Specific gravity/bulk density is determined by using the displacement method using sealed core, volumetric of dry core samples, and gridded rock sampling across the pit. • Yearly mining reconciliation show calculated tonnage from volume surveys to be within 5% of mine production. • The density estimates were updated in 2020. | | | | | | | | |
| Classification | <ul style="list-style-type: none"> • Mineral Resources are classified after consideration of understanding of the geological genesis model, assay and drilling quality and confidence in estimation parameters. Classification criteria based on drill spacing is: <ul style="list-style-type: none"> ○ Measured – Spacing less than 91 m between composites. ○ Indicated – Spacing between 91 m and 182 m. ○ Inferred – Spacing greater than 182 m between composites. • There is less confidence in the high grade molybdenum zone because of drill spacing and size of the zone. Accordingly, blocks meeting the Measured classification criteria are classified as Indicated Mineral Resources. • The Competent Persons are satisfied that the stated Mineral Resource classification reflects the relevant factors of the deposit. | | | | | | | | |
| Audits or reviews | <ul style="list-style-type: none"> • Mineral Resource audits/reviews that have been complete in the past seven years. • Fundamental Data – Extraction and Quality review of the resource database (2017) • Long Range Model (Resource model) Cu EDA (2017) • Rio Tinto Corporate Assurance Internal Audit of Resources and Reserves (2015) • Copper Group Peer Review (2015) • Rio Tinto TEG/BED review of RTK's Integrated Studies IC requests for the South Pushback (2014 & 2015) • Review of the Mineral Resource and Ore Reserve procedures (2013) • External review of molybdenum grade adjustments (2014) • No material issues were raised in the reviews. | | | | | | | | |
| Discussion of relative accuracy/confidence | <ul style="list-style-type: none"> • Bingham Canyon open pit mine has been in operation since 1906. The Mineral Resource data collection and estimation techniques used are supported by reconciliation of actual production since 1989. • Reconciliation of actual production with the Mineral Resource estimates for the existing operational are generally within 10% for tonnage and grades. | | | | | | | | |