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Polymetal International plc

Feasibility Study results and construction approval for the Nezhda gold project

Polymetal International plc has completed the Feasibility Study (“FS”) for the Nezhda project based on the updated Ore Reserve estimate reported in accordance with the JORC Code. The Board has approved the start of project construction.

“Nezhda is a long-life, high-grade asset with robust economics”, said Vitaly Nesis, Group CEO of Polymetal. “The project is capital light and will rely heavily on our successful experience at Kyzyl. Nezhda will contribute to dividends per share already in 2022.”

HIGHLIGHTS

- Mineral Resources (inclusive of Ore Reserves) comprise of 12.4 Moz of gold equivalent (“GE”) with an average GE grade of 4.5 g/t, a 1.6 Moz increase compared with the previous estimate.
- The estimate of Proved and Probable Ore Reserves increased by 2.4 Moz of GE and now contains 38 Mt at an average grade of 3.6 g/t GE for 4.4 Moz of GE contained.
- Open-pit reserves increased by 55% from 2.0 Moz to 3.1 Moz; open-pit reserves now comprise 70% of total reserves.
- The FS envisions 25 years of production from 2021 to 2045. The life of mine plan includes 19 years of conventional open-pit mining from 2019 to 2037, and 17 years of production from underground ore from 2029 to 2045.
- The FS is based on a conventional 1.8 Mtpa flotation concentrator with gravity concentration circuit. Combined recovery to concentrate of 85% is supported by extensive external and in-house metallurgical testing.
- Gravity gold concentrate will be processed at the existing Amursk POX facility while flotation concentrates will be sold to 3rd parties. Average annual production is expected at 180 Koz during the first full 3 years of operation and 155 Koz of payable gold during the first full 15 years of operation.
- The FS has confirmed Nezhda’s low capital intensity and robust project economics:
 - Pre-production capital expenditures are estimated at US\$ 234 million (including capitalised pre-stripping costs).
 - The project’s IRR is estimated at 29% with NPV of US\$ 302 million (using a 10% discount rate, US\$ 1,200/oz gold price, RUB/USD exchange rate of 63, and Brent oil price of US\$ 67/bbl).
 - Total cash costs (TCC) for the open pit are estimated in the range of US\$ 620-670/oz of GE and all-in sustaining cash costs (AISC) in the range of US\$ 700-750/oz of GE. Life of mine TCC is expected in the range of US\$ 700-750/oz of GE, with AISC in the range of US\$ 800-850/oz of GE.
- First production is planned for Q4 2021 with full ramp-up by Q2 2022.
- The project has been approved by the Board of Directors subject to approval from the Russian anti-monopoly service, which is expected in December 2018. Following the final statutory clearance, Polymetal plans to consolidate 100% in Nezhda.

ORE RESERVE STATEMENT

The Nezhda Ore Reserve estimate is reported in accordance with the JORC Code (2012) as at 1 April 2018 using a gold price of US\$ 1,200/oz and silver price of US\$ 16/oz. A cut-off grade of 1.2 g/t gold equivalent has been applied for open pit and 2.8 g/t for the underground. The Ore Reserve statement was prepared by Polymetal and reviewed by CSA Global Pty Ltd ("CSA").

Nezhda Ore Reserves estimate as at 1 April 2018

Ore Reserves	Tonnage		Grade			Content	
	Mt	Au, g/t	Ag, g/t	GE, g/t	Au, Moz	Ag, Moz	GE, Moz
Open-pit	10.4	3.5	22.0	3.8	1.2	7.2	1.3
Underground	1.4	4.5	9.0	4.6	0.2	0.4	0.2
Total Proved	11.7	3.6	20.0	3.9	1.4	7.6	1.5
Open-pit	17.8	3.2	13.0	3.3	1.8	7.5	1.9
Underground	8.5	3.8	13.0	3.9	1.0	3.5	1.1
Total Probable	26.3	3.4	13.0	3.5	2.9	11.0	3.0
Open-pit	28.1	3.3	16.0	3.5	3.0	14.7	3.1
Underground	9.9	3.9	12.0	4.0	1.2	3.9	1.3
Total Proved + Probable	38.0	3.4	15.0	3.6	4.2	18.6	4.4

Notes: Ore Reserves were estimated as at 01.04.2018 with the following assumptions: Au=US\$ 1,200/oz, Ag = US\$ 16/oz, COG for the open-pit GE =1.2 g/t, for the underground GE = 2.8 g/t. Ore Reserves are reported in accordance with JORC Code (2012). Discrepancies in calculations are due to rounding. GE – Gold equivalent was calculated using conversion factor 95 for silver (kAg). Conversion factor for silver to gold equivalent was calculated using the following formula: $kAg = ((Au\ Price/31.1035 - (Au\ Price/31.1035 - Au\ Refinery\ cost) * (Taxes\ Au) / 100 - (Au\ Refinery\ cost\ Au)) * (Au\ Recovery) / ((Ag\ Price/31.1035 - (Ag\ Price/31.1035 - Ag\ Refinery\ cost) * (Taxes\ Ag) / 100 - (Ag\ Refinery\ cost)) * (Ag\ Recovery))$ where, Taxes – mining taxes; Recovery – complete recovery from ore to refined metal. Gold equivalent (g/t) was calculated using the following formula: $GE = CAu + CAg / kAg$ where, CAu – in-situ gold grade, g/t, CAg – in-situ silver grade, g/t.

ADDITIONAL MINERAL RESOURCES

Additional Mineral Resources for Nezhda are reported in accordance with the JORC Code (2012) as at 1 April 2018 using a gold price of US\$ 1,200/oz and silver price of US\$ 16/oz.

Nezhda Additional Mineral Resources as at 1 April 2018

Additional Mineral Resources	Tonnage		Grade			Content	
	Mt	Au, g/t	Ag, g/t	GE, g/t	Au, Moz	Ag, Moz	GE, Moz
Measured							
Underground	0.2	4.0	9.0	4.1	0.0	0.1	0.0
Total Measured	0.2	4.0	9.0	4.1	0.0	0.1	0.0
Indicated							
Underground	2.8	3.7	16.0	3.9	0.3	1.4	0.3
Total Indicated	2.8	3.7	16.0	3.9	0.3	1.4	0.3
Measured + Indicated							
Underground	3.0	3.7	15.0	3.9	0.4	1.5	0.4
Total Measured + Indicated	3.0	3.7	15.0	3.9	0.4	1.5	0.4
Inferred							
Open-pit	2.3	2.2	8.0	2.3	0.2	0.6	0.2
Underground	44.1	5.2	9.0	5.3	7.4	13.1	7.5
Total Inferred	46.4	5.1	9.0	5.2	7.6	13.7	7.7
Measured + Indicated + Inferred							
Open-pit	2.3	2.2	8.0	2.3	0.2	0.6	0.2
Underground	47.1	5.1	10.0	5.2	7.7	14.6	7.9
Total Measured + Indicated + Inferred	49.4	5.0	10.0	5.1	7.9	15.1	8.1

Notes: Measured and Indicated Mineral Resources are additional to Ore Reserves. Inferred Mineral Resources are by definition always additional to Ore Reserves. Cut-off grades of 1.2 g/t and 2.8 g/t gold equivalent (GE) for the open pit and underground mining methods, respectively. Due to the effects of rounding, the sum of individual values will not necessarily equal the total. All Mineral Resources that were converted to Ore Reserves were excluded from the statement. GE – Gold equivalent was calculated using conversion factor 95 for silver (kAg).

The estimate has been updated with 217 additional drill holes (39 km) and is based on data from a total 64,708 m of diamond drilling completed by Polymetal between 2015 and 2018 in addition to the 339,392 m of drilling completed by previous owners. Two hundred and ninety-four mineralised intersections were identified based on fire assay results.

Mineral Resources for the open pit were estimated up to a depth of 250 m from the surface, with the underground portion estimated up to a depth of 440 m from the surface.

The largest mineralised structure is ore zone 1 (“OZ 1”) which has a strike length of 4,900 m and a vertical extent of over 1,800 m and comprises approximately 70% of currently estimated GE resources at Nezhda. For OZ 1, top cutting at 80 g/t gold was applied to reduce outlier grade influence on local estimation. Another first-priority mining area is Ore Zone (OZ) 56.

INFORMATION ON NEZHDA

Nezhda is the fourth largest gold deposit in Russia, located in northeast Yakutia in the Tompon municipal district, approximately 480 km east from the city of Yakutsk (population of 350,000). The property is remote with access by an all-season unpaved road and no grid connection. The nearest federal highway is 110 km away from the deposit by all-year unpaved road. The highway provides direct access to the Khandyga river port (170 km) and the Nizhniy Bestiakh railway spur (540 km). The climate is characterized by long severe winters and short hot summers. The relief is moderately mountainous with relative altitudes above valley floors not exceeding 600 m.

The deposit is composed of large mineralised zones, representing areas of intense brecciation comprised of crushed and sheared, hydrothermally altered, sedimentary rocks that have been variably enriched in quartz. The Nezhda mineralisation is double refractory due to the encapsulation of fine gold particles within sulphide minerals and significant presence of preg-robbing carbonaceous material.

The Nezhda gold deposit was discovered in 1951 during the Allakh-Yunskaya geological exploration expedition. From 1959, the deposit was subject to several exploration and evaluation initiatives resulting in newly identified ore zones. In 1975, a 180 Kt per annum underground mine and concentrator was commissioned at Nezhda with over 2 Mt of ore mined and processed before the operation was placed on care and maintenance in 2005. Polyus acquired the asset in 2006, subsequently undertaking an extensive exploration program and completing several technical studies.

Polymetal entered into the project by establishing a joint venture with Polyus for the Nezhda gold deposit in 2015, completing a total 42,479 m of diamond drilling by 2017, which resulted in an initial Mineral Resource estimate reported in accordance with the JORC code on July 17, 2017. Polymetal then agreed to buy out 75.3% interest in Nezhda from Pallavicino Holdings by serving an exercise notice for the call option in April 2018. The consideration will comprise US\$ 144 million, payable in Polymetal shares (apart from US\$ 10 million that will be paid in cash).

MINING

The updated mine plan envisages five open pits (four at OZ 1 and a separate pit at OZ 56) that will be mined over 19 years via conventional drill-and-blast and truck-shovel methods, with a subsequent gradual switch to underground mining that will last for 17 years. The total expected mine life currently stands at 27 years, and can potentially be increased by another 10 years, following additional exploration to improve the confidence of the remaining Mineral Resources.

The projected open-pit mining volumes are currently set at up to 2.2 Mtpa of ore with an average stripping ratio of 9 (excluding pre-strip).

The underground mine will utilise long-hole stoping with partially consolidated backfill, a method currently used to good effect by Polymetal at the Albazino underground mine.

METALLURGY AND PROCESSING

The concentrator with a capacity of 1.8 Mtpa incorporates crushing, two-stage grinding, gravity and flotation, concentration. Concentrates are thickened, filtered, dried and bagged for off-site processing. Tails are thickened, filtered, and dry stacked in a fully lined tailings storage facility. Gold recovery to concentrate is anticipated at 85% with a mass pull ratio of 4.8%. An average concentrate grade of 61 g/t is expected.

Flotation concentrates will be sold to third party off-takers while gravity concentrate will be processed at the existing Amursk POX facility. The current feasibility study does not include any consideration of the potential second line at the Amursk POX that would be capable of processing flotation concentrate in-house.

CAPITAL EXPENDITURE

Total capital costs for Nezhda in 2019-2021 are estimated at US\$ 234 million, including US\$ 30 million of capitalised pre-stripping costs, and will be funded out of free cash flow.

Area	Capital Cost, US\$ million
Mining fleet	19
Processing plant equipment	39
Construction and infrastructure	126
Engineering	3
Contingency	17
Initial Capital Costs	204
Capitalised pre-stripping	30
Total Capital Costs	234

During 2015-2018 Polymetal has invested approximately US\$ 120 million in Nezhda, including the acquisition of its current 17.7% stake, the option to increase ownership to 100%, substantial exploration, evaluation and engineering activities, as well as a significant infrastructure upgrade.

PROJECT DEVELOPMENT TIMELINE

Polymetal envisages the following conceptual development timeline for the Nezhda gold Project:

- Final approval from the Federal Anti-Monopoly Service in Q4 2018
- Mining activities to start in Q4 2018 subject to positive decision by Federal Anti-Monopoly Service
- Start of construction in Q1 2019
- Commissioning and first production: Q4 2021
- Full ramp-up: Q2 2022

APPENDIX

Competent persons

This estimate was reviewed by CSA Global Pty Ltd., who assumes overall responsibility for the Mineral Resources and Ore Reserves Report.

Listed below are the Competent Persons employed by CSA that are responsible for relevant research on which the Mineral Resources and Ore Reserves estimate is based:

- Geology and Mineral Resources – Dmitry Pertel, Principal Geologist (MAIG) with over 30 years' relevant experience;
- Mining and Ore Reserves - Karl van Olden, Mining Manager / Principal Mining Engineer (FAusIMM) with over 25 years' relevant experience;

All the above-mentioned Competent Persons have sufficient experience that is relevant to the style of mineralisation and types of deposits under consideration and to the activity being undertaken to qualify as a Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves' (JORC Code).

All Competent Persons have given their consent to the inclusion in the report of the matters based on their information in the form and context in which it appears.

For more details please refer to the JORC Table 1 below.

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JORC Table 1. Nezhdaninskoye Deposit
Section 1. Sampling Techniques and Results

Criteria	Content	Explanation
Sampling techniques	<i>Nature and quality of sampling (cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, e.g. downhole gamma sondes, or handheld XRF instruments). These examples should not be taken as limiting the broad mining of sampling.</i>	<p>Channel samples were collected from trench walls and bottom, as well as from underground working faces with preliminary clean-up.</p> <p>Vein zones, exposed in the workings, were sampled by channels of 10 × 3 cm in cross-section through the entire mineralised body thickness. The sampling was continuous through the entire mineralised body thickness penetrating 2–3 m into host rocks. Ore varieties and mineralised zones within selvages were sampled by separate sections, while the length of each section (routine sample) was preconditioned by the mineralised body internal structure, rock composition variability, structural and textural features, physical and mechanical properties, etc.</p> <p>Chip samples 0.5–1 m long were taken in narrow (up to 20 cm) formations/intervals (veins, zones, etc.). In thick homogenous mineralised body areas (particularly in mineralised shear zones) the section length, as a rule, did not exceed 1 m. The samples were collected from both walls in the mine workings, intersecting the whole mineralised body thickness, and in raises, the heading face was sampled (each 2–5 m) in the workings, driven along the strike. In the crosscuts, all samples were taken 1.1–1.3 m above the floor.</p> <p>Drill core was sampled by sections based on the lithological rock varieties. While using short runs 0.5–1.0 m in length, the whole core was included in a single sample. When the drilling diameter was HQ (89.6 mm) and over, a core sample was split by a mechanical device into two equal halves along its longitudinal axis. The whole core was logged and photographed. The sample mass (a sample being 63.5 mm in diameter) was as follows: a core half (1.0 m) – 3.5–4.6 kg, the whole core (1.0 m) – 7.0–9.2 kg.</p>
	<i>Include reference to measures taken to ensure sample representativity and the appropriate calibration of any measurement tools or systems used.</i>	<p>The channel and core sampling representativity evaluation was carried out in 1967 to 1978 and 2006 to 2008. The channel sampling representativity was verified by comparing the results of channel and bulk sampling, carried out at 1 m intervals. The average deviation is -3.1%. The results are acceptable.</p> <p>The core sampling representativity was evaluated by comparing the results of core sampling in horizontal an inclined drillholes and channel sampling in crosscuts and raises. The deviation is from -5.3% to +6.4%. The control results are acceptable.</p>
	<i>Aspects of the determination of mineralization that are material to the Public Report. In cases where ‘industry standard’ work has been done this would be relatively simple (e.g. ‘reverse circulation drilling was used to obtain q m samples from which 3 kg was pulverised to</i>	<p>With regards to the composition, the Nezhdaninskoye ores may be classified as quartz-alumino-silicate-gold-arsenic low sulphide ones. Gold occurs in free form as small grains 45 µm in size on average, forming intergrowths with</p>

Criteria	Content	Explanation
	<i>produce a 30 g charge for fire assay'). In other cases, more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralization types (e.g. submarine nodules) may warrant disclosure of detailed information.</i>	<p>sulphide minerals. The remaining gold is identified as inclusions in arsenopyrite and pyrite.</p> <p>In the opinion of the Competent Person, the sampling techniques are appropriate for the geology, scale of deposit, and are of an acceptable standard for the purpose of data used in estimating Mineral Resources.</p>
Drilling techniques	<i>Drill type (e.g. core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc.) and details (e.g. core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc.).</i>	<p>Core drilling was carried out. Casing, quickset mixtures or cement slurries were used to improve core recovery. Wireline core barrels of small diameters (59 mm and 76 mm) with double core barrel and catcher were used during drilling. The core barrel length is 3.0 m. SBA-500, ZIF-650 M, ZIF-1200 A, SKB-5 drill rigs were used in the Soviet period. 76 mm and 59 mm were the main drilling diameters, and 150–93 mm were used for spudding. In 2016 to 2017, Boart Longyear LF90D, Christensen CS14, HYDX-5M mobile drill rigs with a mast were used for surface drilling. Diamond bits had HQ (89.6 mm) working diameter and NQ (76 mm) reserve diameter.</p> <p>In the opinion of the Competent Person, the drilling techniques are suitable for estimating Mineral Resource: the core sizes are appropriate, and the standard of work completed in the Soviet era can be quantified and compared to more recent work. The data obtained using the older drilling techniques is acceptable.</p>
Drill sample recovery	<i>Method of recording and assessing core and chip sample recoveries and results assessed.</i>	Control of linear and weighted core recovery was performed. The average core recovery for the entire exploration period is 82–98.4%.
	<i>Measures taken to maximise sample recovery and ensure representative nature of the samples.</i>	<p>During exploration in 1978 to 1986, 2006 to 2008 and 2015 to 2018, the weighted core recovery control was carried out. The average weighed core recovery was from 80% to 97%. The average deviation from the linear core recovery does not exceed 3%.</p> <p>Double core barrels have been used since 2006 to obtain a high core recovery. Special drilling practices and short runs were used in difficult drillholes to provide maximum core recovery.</p>
	<i>Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.</i>	<p>Coefficient of correlation between core recovery and gold grade is -0.03. No selective grinding takes place.</p> <p>In the opinion of the Competent Person, the drill sample recoveries are suitable for data used in estimating Mineral Resources.</p>
Borehole survey and core logging	<i>Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.</i>	<p>Directional survey was carried out in all the drillholes, no other borehole survey was used.</p> <p>Drillhole geotechnical logging was not carried out.</p> <p>Logging of whole core with marking and sampling was carried out within a potential mineralised zone.</p>
	<i>Whether logging is qualitative or quantitative in nature. Core (or costean channel, etc) photography.</i>	All drillholes were logged, using the log books and the prescribed format. Since 2015, AGR electronic documentation system has been used for core logging. The following was subject to recording during core logging: rock type, structural and textural features, hydrothermal-

Criteria	Content	Explanation
		metasomatic alteration and its intensity, veinlet-disseminated mineralisation, sulphide amount and composition, supergene alterations and fractural tectonics. Core photographing has been made since 2015.
	<i>The total length and percentage of the relevant intersections logged.</i>	Logging was completed for each drillhole and channel (100%), regardless of whether it was a mineralised intersection or host rock. Core photographing has been made since 2015. In the opinion of the Competent Person, the drill sample recoveries are suitable for data used in estimating Mineral Resources.
Subsampling techniques and sample preparation	<i>If core, whether cut or sawn and whether quarter, half or all core taken.</i>	When a core diameter exceeded 76 mm, the core was sawn into two halves along the core axis, a core half was taken as a sample and another half was kept in the core tray. When a core diameter was less than 76 mm, the whole core was taken as a sample, keeping two to three representative specimens to support logging (less than 10% of the whole core).
	<i>If non-core, whether riffled, tube sampled, rotary split, etc. and whether sampled wet or dry.</i>	The main sampling types are channel and core sampling. Slurry sampling was carried out during in-mine/productive drilling.
	<i>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</i>	During the entire exploration period, sample preparation was completed at a special workshop of the Nezhdaninskoye project site/mine. All the sample preparation flowsheets were developed to consider rwh minimum representative sample weight, calculated on the basis of the Richards Chechautte's equation. The distribution irregularity factor (k) is 0.4. This factor value was justified during the 1967 to 1978 exploration.
	<i>Quality control procedures adopted for all subsampling stages to maximise representativity of samples.</i>	All samples were registered, dried and weighed. Prior to each sample reduction/splitting, the fraction size was checked by screening/sieving. In 2015 to 2017, check weighing of sample aliquots, separated from the geological samples, was carried out. The check weighing amounted to 3%. In 1967 to 1978, 2006 to 2008 and 2015 to 2018, geological control of the sample preparation accuracy was accomplished by using repeated tailings preparation and assaying. Control results demonstrated an acceptable level of sample preparation accuracy. 5% blanks were added to each batch, to monitor contamination controls. No significant contamination was identified.
	<i>Measures taken to ensure that the sampling is representative of the in-situ material collected, including for instance results for field duplicate/second-half sampling.</i>	Between 1967 and 1978 and 1978 and 1986, channel sampling accuracy was checked using adjacent channel sampling, and comparing the Au assay results for the routine and control channel samples. The control results were acceptable. Special control, using the second core halves, was performed only in 2015 to 2018. Second core halves,

Criteria	Content	Explanation
		amounting to 1% (200 pieces), were taken for the control purposes.
	<i>Whether sample sizes are appropriate to the grain size of the material being sampled.</i>	<p>The sampling weight control was also performed. The average actual weight deviation from the theoretical one is 4.2%. In 2016 to 2018, the weight of two core halves was also compared. The average deviation was 2.9%.</p> <p>Provisionally, pending the return of the final results of the second-half control samples currently being assayed, it is the Competent Person's opinion that the subsampling techniques and sample preparation are suitable for data used in estimating Mineral Resources.</p>
Quality of assay data and laboratory tests	<i>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</i>	<p>During the entire exploration period, the main method of analysis of geological samples was fire assay with atomic absorption spectroscopy (AAS) or gravimetric finish.</p> <p>All participating assay laboratories were accredited and had the appropriate certificates according to the current requirements as of the time of assaying.</p>
	<i>For geophysical tools, spectrometers, handheld XRF instruments, etc., the parameters, used in determining the analysis including instrument maker and model, reading times, calibrations factors applied and their derivation, etc.</i>	No geophysical tools were used, not applicable.
	<i>Nature of quality control procedures adopted (e.g. standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e. lack of bias) and precision have been established.</i>	<p>During the entire exploration period, the internal geological control (assay precision) was monitored by means of systematic duplicates assaying. Duplicate and routine sample assaying were completed using the same methods. The reproducibility of the duplicate assays results was found to be acceptable.</p> <p>No information is available relating to blanks or standards were employed in the historical exploration programs before 1967.</p> <p>A total of 11,118 (5.7%) duplicates were sent for assaying, including 3,633 duplicate assays for gold and 2,633 assays for silver for the period between 1981 and 1986.</p> <p>Duplicate assays of 5,429 for gold and 4,199 for silver (6.3% and 4.9% of the database respectively) were completed between 1967 and 1978.</p> <p>162 duplicate assays for gold and silver were completed in 2006, and 635 assays for gold in 2007.</p> <p>About 5% of the database was sent to the internal laboratory for the exploration period between 2015 and 2018. The comprehensive findings are being finalised however preliminary results indicate that any errors are not material.</p> <p>Between 2006 and 2008 and 2015 and 2016, certified reference materials (CRMs) were added to work order's batches, amounting to 234 samples for gold and 90 samples for silver (1.1%) in 2006 to 2008; and 847 samples (4.9%) in 2015 to 2017 to monitor assay accuracy and precision.</p>

Criteria	Content	Explanation
		<p>In 2015 to 2017, 842 blank samples (4.9%) were used to monitor contamination control. The control results were acceptable.</p> <p>External monitoring was conducted throughout the entire exploration period, using independent laboratories.</p> <ul style="list-style-type: none"> • Between 1967 and 1977, 4,171 assays for gold (4.9%) and 1,512 assays for silver (1.8%) were carried out of the database respectively • Umpire assays between 1981 and 1986 included 3,238 assays for gold and 2,304 assays for silver, which is 3.8% and 2.7% respectively of the analytical data collected by 1995 • Umpire assays for 2006 included 93 assays for gold and 93 assays for silver, 0.5% of the analytical data collected between 2006 and 2008 • Umpire assays for 2007 included 330 assays for gold and no assays for silver, which is 1.6% of the analytical data collected between 2007 and 2008 • Umpire assays for 2008 included 265 assays for gold and no assays for silver, which is 1.3% of the analytical data collected between 2008 and 2008. <p>Between 1978 and 1986, a significant bias was identified. The samples, assayed in that period, were sent to an arbitrage umpire laboratory.</p> <p>Based on the umpire assay results for the samples collected in 1984 to 1986, a downward bias of -5% was confirmed for the grade ranges >20 g/t, which further increased to -30% for the other grade ranges, and slightly lower again for grade ranges of 0–0.5 g/t.</p> <p>About 2 to 3% of the database was sent to an umpire laboratory in the exploration period between 2015 and 2018; these results did not indicate any material concerns.</p> <p>The Competent Person is satisfied that the overall quality of the assay results is acceptable, and fit for the purpose of Mineral Resources estimation.</p>
Verification of sampling and assaying	<i>The verification of significant intersections by either independent or alternative company personnel.</i>	Not applicable, as verification of significant intersections by either independent or alternative company personnel was completed.
	<i>The use of twinned holes.</i>	<p>Not applicable, as not twinned holes were drilled.</p> <p>Between 1967 and 1978 and 1978 and 1986, channel sampling accuracy was checked using adjacent channel sampling, and comparing the Au assay results for the routine and control channel samples.</p> <p>The control results were considered acceptable.</p>
	<i>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</i>	<p>In the early exploration stages, trenches were documented in the field, using log books of the prescribed form (at 1:50 scale of a mining working), indicating the sampling intervals (sample length) and sample numbers.</p> <p>Sampling plans at 1:200, 1:500 scale were prepared. The underground workings were documented in the field, log books were used to record rock descriptions, strike and dip</p>

Criteria	Content	Explanation
		<p>determinations, structural and textural features, mineralisation. The entire geological setting was recorded on sketches of mine workings, indicating the channel sampling points.</p> <p>Core logging was completed in the field, describing lithology, mineralisation, structural and textural features in the drillhole log books. The log books also recorded run length, core recovery, rock hardness category, sampling interval, sample number, lithological column, x-ray radiometric measuring data.</p> <p>Core logging in the current exploration program is carried out using the AGR electronic documentation system, allowing a considerably detailed core logging and imaging, based on the initial data and live database updates.</p> <p>Underground workings are primarily documented as paper files, stored at the project site and in the South-Verkhoyansk Mining Company's archive. They are also digitised, stored on the company's server, and updated monthly.</p> <p>Laboratory test reports on paper are stored at the project site and in the archive, and in electronic form on the company's server.</p> <p>The company Chief Geologist and the company's database maintenance division personnel regularly check the laboratory reports and work order conformity.</p> <p>Geological and laboratory data backup is carried out once a month on a separate carried.</p> <p>The Competent Person is satisfied that the verification of sampling and assaying, and the storage and management of data, is fit for the purpose of Mineral Resources estimation.</p>
	<i>Discuss any adjustment to assay data.</i>	Not applicable as no adjustments were introduced to the analytical data.
Location of data points	<i>Accuracy and quality of surveys, used to locate drillholes (collar and downhole surveys), trenches, mine workings, and other locations, used in Mineral Resource estimation.</i>	<p>Underground workings (adits) were referenced to setting-out points, and added to the basic triangulation network. Round-trip first-order traverses were run in all the underground workings, exceeding 300 m in length. A relative closing error of the first-order traverses, occurring in adit No 2 and adit No 25 breakthrough, was 1:3430 per 4,650 m length, in adit No 26 and No 1 breakthrough - 1:6580 per 2700 m traverse length. Second-order traverses were run in all the underground workings, less than 300 m in length.</p> <p>In 2006, the Federal State Unitary Enterprise (YakutAGP) increased the density of the control network, which was based on fourth-order traverses, and conducted a topographic survey (1:2000 scale), covering 15.85 km² at 2.0 m contour intervals. The survey was carried out using GPS. The field measurements were processed using PINNACLE 1.0 software.</p> <p>Drillholes and surface workings were referenced to the survey grid points by means of cutting points, traverses and</p>

Criteria	Content	Explanation
		polar network. The elevations were determined by traverse levelling.
	<i>Specification of the grid system used.</i>	<p>Trenches, crosscuts and drillholes were located along the profiles, oriented across the mineralised bodies' strike. The strike azimuth of Ore Zone 1 was NE 345°, Ore Zone 26 – NE 339°, the profiles strike at 70-90°.</p> <p>The exploration grid density, achieved in 2017, varies from 100 × 40 m to 50 × 20(40) × 20 m, and 20 × 20 m in some areas of Mineralised Zone 1.</p> <p>All the workings were referenced in the local coordinate system. The information was provided in databases. The elevation system was Baltic.</p>
	<i>Quality and adequacy of topographic control.</i>	<p>In August–September 2016, a specialised company, NMK Ltd, conducted a topographic survey in some areas of Mineralised Zone 1 within the Nezhdaninsky survey project framework.</p> <p>The topographic survey was carried out (at 1:1000 scale) at 1 m contour intervals, providing a field compilation survey. The survey was run based on the fixed control points. The survey was completed in full, in accordance with the Terms of Reference, current regulatory documents, and the survey data requirements of OJSC Polymetal, and will serve for subsequent project engineering. The field data and calculation results were stored in the NGK Ltd archive – in compliance with SP11-104-97. The topographic survey data were submitted to JSC SVMC on paper and in electronic form.</p> <p>The catalogues of the control network point coordinates and elevations were included into the report text and submitted. The terrain digital model was recorded to a CD, submitted together with the report. The coordinates system – local (MSK-88), the elevation system – Baltic, 1977.</p> <p>The Competent Person is satisfied that the location of data points is fit for the purpose of Mineral Resources estimation.</p>
Data spacing and distribution	<i>Data spacing for reporting of Exploration Results.</i>	Mineralised zone and vein outcrops were explored by trenches. Mineralised Zone 1 was traced to a depth exceeding 800 m from the surface, using adit levels (to +600 m absolute elevation) and inclined core drillholes. Trenches, crosscuts and drillholes were located along the profiles, oriented across the orebody strike, the profiles strike at 70–90°.
	<i>Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.</i>	<p>At all exploration stages, the grid density was consistent. The distance between the profiles is 40–160 m, between the exploratory levels is 50–100 m, between drillholes along a profile is 40–80 m on average. The resulting spacing is 40 × 40 m and 20 × 20 m in the infill areas.</p> <p>In 2015 to 2017, the exploration program was focused on infill drilling at 40 × 40 m spacing in some areas of the Mineralised Zone 1 and Vein Zone 56 to improve the data confidence and update the resource category.</p>

Criteria	Content	Explanation
	<i>Whether sample compositing has been applied.</i>	<p>1 m composite length was chosen for Mineral Resource estimation, based on length analysis of raw intercepts.</p> <p>The Competent Person is satisfied that data spacing is appropriate for Mineral Resource estimation and supports classification as Measured, Indicated and Inferred.</p>
Orientation of data in relation to geological structure	<i>Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.</i>	<p>The sampling orientation was appropriate for the reliable sampling of the identified structures, considering the mineralisation type.</p> <p>Drilling profiles were oriented across the mineralisation and vein zone strike.</p> <p>The steep mineralised bodies' dipping at 75–90° were sampled by inclined drillholes, oriented across the mineralised zone strike, or by crosscuts.</p>
	<i>If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.</i>	<p>Sampling bias from the orientation of the drilling was not identified.</p> <p>The Competent Person is satisfied that orientation of data in relation to geological structure is appropriate for Mineral Resource estimation.</p>
Sample security	<i>The measures, taken to ensure sample security.</i>	<p>In 2015 to 2018, after the core logging completion, the core was sawn, a core half was taken into the sample, the other half was placed on the core tray, the tray voids were filled with materials at hand and sent to a temporary core storage.</p> <p>The core samples were packed in heavy-duty bags, a tag with the sample number was placed inside the bag, another tag was fixed on the bag outside. The samples were then weighed. The samples were transported to the sample preparation facility, as per the work order.</p> <p>The tailings, remaining after the geological samples reduction, are kept in a temporary storage (the former first-aid station) of the abandoned Nezhdaninskoye settlement.</p> <p>After completion of sample preparation, the samples were sent for XFA to the express-laboratory at the Nezhdaninskoye mine. Following completion of analysis, what remained of the samples was packed into cardboard boxes and transported to duplicates storage, some located on the premises of the sample preparation facility (40-ft containers with a rack stand), the others - in the permanent buildings of the abandoned Nezhdaninskoye settlement. The boxes, containing the geological and assay sample duplicates, are marked, stored separately by mine workings, and placed on the racks according to the location diagram. Each storage unit is provided with a diagram of the boxes location on the racks.</p> <p>Based on the XFA results, the assigned laboratory technician prepared a sample batch for assaying. Before packing, the selected samples were inspected and approved by the senior geologist.</p> <p>The sample batches were prepared in a specially arranged dry ventilated room, placed in Kraft paper bags, tightly packed into boxes and transported to SGS Vostok Limited laboratory, Chita, by air. All the sample batches, shipped outside the project site, were provided with the appropriate documents (work orders, etc.), including the sample numbers, initial weight and brief description.</p> <p>Marked boxes with core were stored partly in the core storage of the Nezhdaninskoye mine (disused workspace), and partly in the premises of the abandoned</p>

Criteria	Content	Explanation
		<p>Nezhdaninskoye settlement (permanent buildings of the school gym and cinema theatre).</p> <p>The entire Nezhdaninskoye mine territory is under security. The sample and core storages are provided with fire-fighting equipment and padlocks.</p> <p>The Competent Person is satisfied that sample security is appropriate for Mineral Resource estimation.</p>
Audits or reviews	<i>The results of any audits or reviews of sampling techniques and data.</i>	<p>Sampling techniques and data were reviewed by a CSA Global representative during a site visit completed in May 2016. The review did not reveal any fatal flaws. The sampling and data collection techniques are believed to be industry standard.</p> <p>The Competent Person is satisfied that all Sampling Techniques and Results are appropriate for Mineral Resource estimation.</p>