Alphamin Announces an Updated Mpama South Mineral Resource Estimate and the Decision to Commence with Development

written by Raj Shah | April 4, 2022

March 29, 2022 (Source) – Alphamin Resources Corp. (AFM:TSXV, APH:JSE AltX, "Alphamin" or the "Company"), a producer of 4% of the world's mined tin[1] from its high-grade operation in the Democratic Republic of Congo, is pleased to announce an updated Mpama South Mineral Resource estimate and the decision to commence with the development of the Mpama South mine and processing plant.

HIGHLIGHTS

- **Mpama South updated Inferred Resource up 75% to 3.42Mt** based on assays from 22 additional drillholes. Mpama South Mineral Resource now stands at:
    - 0.85Mt @ 2.55% Sn for 21.5kt contained tin in the Indicated category; and
    - 3.42Mt @ 2.45% Sn for 83.7kt contained tin in the Inferred category
- **Significant additional resource growth potential at Mpama South** – drilling is on-going with considerable mineralisation intercepted beyond the updated Mineral Resource boundary
- **Decision to commence with the development of Mpama South**:-
    - Targeted **first tin production by December 2023**
    - Estimated **annual contained tin** production

of **7,232 tonnes**[3] at an estimated **AISC**[2] **of US$15,188/t tin** (Based on an assumed US$40,000/t tin price)

  - Estimated **annual EBITDA**[2] **of US$187m**[3] at an assumed tin price of US$40,000/t
  - **Estimated capital development cost of US$116m**[3] providing a projected **short payback** in relation to annual EBITDA potential
  - **De-risked project execution** with similar mining method, mining fleet and processing route as currently applied at Alphamin's adjacent Mpama North Mine
  - Capital development cost to be funded from cash reserves

- Mpama South's development is expected to increase annual contained tin production from the current 12,000tpa to **~20,000tpa, approximating 6.6% of the world's mined tin**[1]

Chief Executive Officer, Maritz Smith comments:

"The development of Mpama South as a brownfields expansion is expected to increase Alphamin's annual tin production by 65% to a targeted 20,000t from FY2024. Tin and technology are inter-linked and consequently global demand for tin continues to increase despite constrained supply. This development decision and the resultant additional production expected by the end of 2023, positions us to deliver more tin into this widening market deficit."

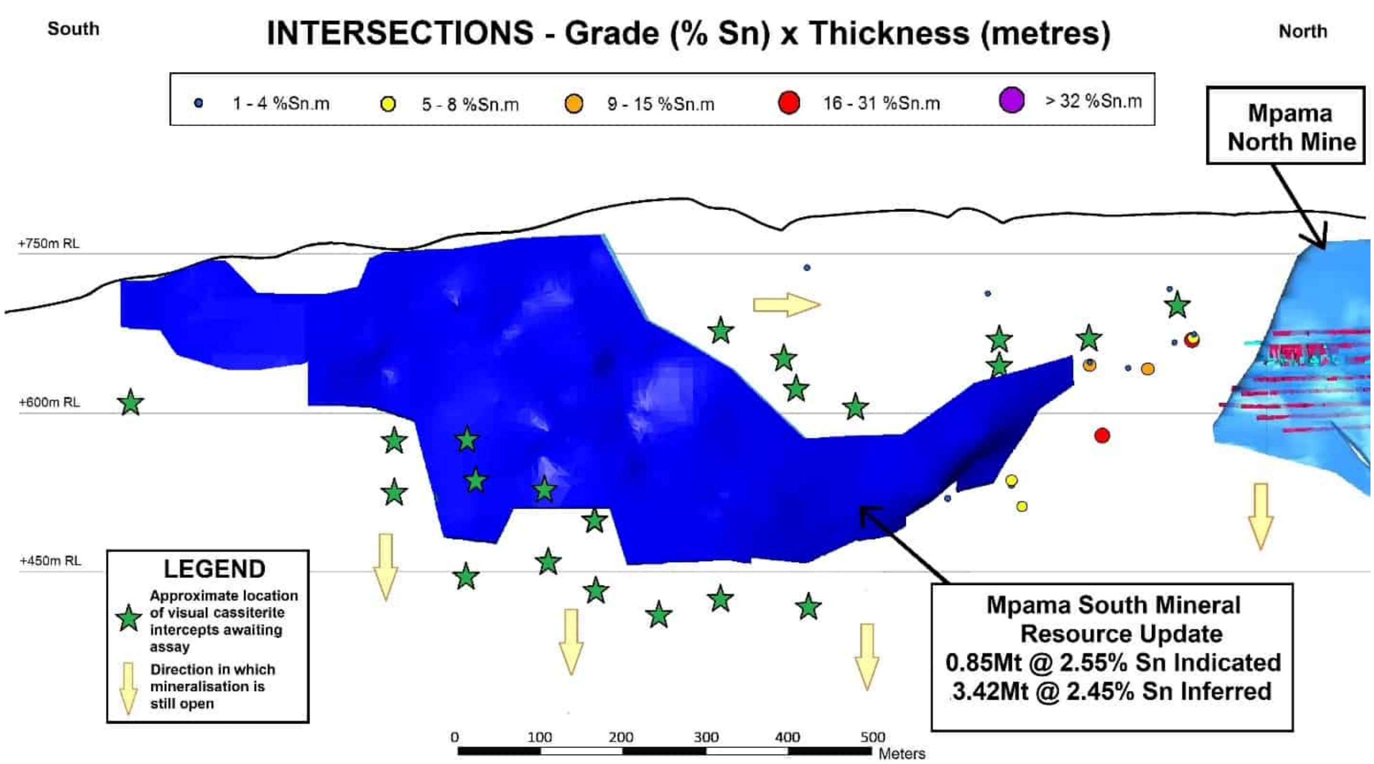
Mpama South Updated Mineral Resource Estimate

The updated Mineral Resource for Mpama South follows three weeks after the announcement of the maiden Mineral Resource in the

Company’s announcement of 7th March 2022. The update is based on the receipt of assays for a further 22 drillholes to the original 79 drillholes on which the Maiden Mineral Resource estimate was based.

The updated Mineral Resource presented in Figure 1 closely follows the spatial position of reported assays which Alphamin presented in its 22nd March 2022 Company announcement. This practice of regularly plotting intercepted visual cassiterite and assays in news announcements, as an early indication of where Mineral Resources may potentially extend to and then following it up with regular Mineral Resource updates, is planned to continue during 2022.

Figure 1: Updated Mpama South Mineral Resource and visual cassiterite intercepts awaiting assay



Source: Alphamin 2022

Following the receipt of assays for the additional 22 drillholes, an updated Mineral Resource Estimate (MRE) for the Mpama South project was completed. The MRE, which now includes results from 102 drillholes, was estimated using the Canadian Institute of Mining, Metallurgy and Petroleum (CIM) Best Practice Guidelines (2019) and is reported in accordance with the 2014 CIM Definition Standards.

The Mineral Resource is classified into the Indicated and Inferred categories and is reported at a base case tin grade of 1.0%, which satisfies reasonable prospects for economic extraction. Mpama South Inferred Resources increased by 75% to 3.42Mt. The Mineral Resource Statement with an effective date of 28 March 2022 is presented in Table 1:-

Table 1: Updated Mpama South Mineral Resources effective 28 March 2022

Classification	Tonnes (millions)	Sn %	Sn Tonnes (thousands)
Indicated[4]	0.85	2.55	21.5
Inferred[5]	3.42	2.45	83.7

Mineral Resources that are not Mineral Reserves do not have a demonstrated economic viability and require advanced studies and economic analysis to prove their viability for extraction.

The MRE for Mpama South does not include a substantial quantity of subsequent drilling containing characteristic high grade visual cassiterite. Around 30 additional drillholes and over ~10,000 metres beyond and within the limits of the updated MRE at Mpama South have been completed. Subsequent Mpama South MRE updates are expected to be released throughout the remainder of the drilling phases in 2022 and beyond as assays are received.

The MRE has been completed by Mr. J.C. Witley (BSc Hons, MSc (Eng.)) who is a geologist with 33 years’ experience in base and precious metals exploration and mining as well as Mineral Resource evaluation and reporting. He is a Principal Resource Consultant for The MSA Group (an independent consulting company), is registered with the South African Council for Natural Scientific Professions (SACNASP) and is a Fellow of the Geological Society of South Africa (GSSA). Mr. Witley has the appropriate relevant qualifications and experience to be considered a "Qualified Person" for the style and type of mineralisation and activity being undertaken as defined in National Instrument 43-101 Standards of Disclosure of Mineral Projects.

Preliminary Economic Assessment (PEA) Results on Mpama South

Summary results from the PEA announced on 7 March 2022 are tabulated below. The PEA was based on the maiden Resource estimate and excludes Resources from the updated MRE included in this announcement.

Description	Unit	Value
Avg. Annualised ROM mined and processed	'000t	**468**
Avg. Annualised ROM grade	%Sn	**2.21**
Processing recovery	%	**70.0**
Avg. Annualised Contained tin produced	tonnes	**7,232**
Avg. Annualised AISC per tonne contained tin sold (At US$40,000/t tin price)	$/t tin	**15,188**
Avg. Annualised AISC per tonne contained tin sold (At US$30,000/t tin price)	$/t tin	**14,326**
Avg. Annualised EBITDA (At US$40,000/t tin price)	US$'000	**187,310**
Avg. Annualised EBITDA (At US$30,000/t tin price)	US$'000	**121,220**
Development Capital Estimate	US$'000	**115,970**

* The outputs are based on 100% of the project. Alphamin indirectly owns 84,14% of the project.

The PEA is preliminary in nature, it includes Inferred Mineral Resources that are considered too speculative geologically to have economic considerations applied to them that would enable them to be categorized as Mineral Reserves. There is no certainty that the PEA results will be realized. Mineral Resources are not Mineral Reserves and do not have demonstrated economic viability, nor is there certainty that the Mineral Resource will be converted into Mineral Reserves.

Decision to commence with the development of Mpama South

PEA studies are conceptual in nature and are most commonly applied to projects at an early stage of exploration to conceptualise potential viability. A PEA is not a pre-feasibility or feasibility study and the Company does not purport the PEA results to be equivalent to a feasibility study. However, notwithstanding the very preliminary and conceptual nature of the PEA, based on the Company's experience at Mpama North and knowledge base, including regarding underground conditions, the mining method and processing route, and the proximity and very similar characteristics of the deposits, the Company believes that Mpama South represents an immediately accessible adjacent Resource to the current producing Mpama North mine.

The Board has approved the commencement of development of Mpama South without delay taking account of:

- the opportunity to take advantage of the current and forecasted supply deficit in the tin market;
- the Company's ability to self-fund its development from current and short-term forecasted cash reserves;
- the continued exploration success at Mpama South which has

immediate potential for further resource extensions and successful conversion of inferred resources;
- the expected short payback on this capital investment;
- the potential significant value any additional production has to the operating profits of the Company in the near term.

The lead time to project completion and commissioning is estimated at 20 months with first tin production targeted by December 2023. The surface infrastructure and processing plant construction will be executed under an EPCM contract model, using contractors who are familiar with the Mpama North mine, and who have proven their competence at the mine to date. The underground mine development will be executed by a dedicated Alphamin mining team who will progress from developing the project to planned production mining.

Qualified Persons

Mr Jeremy Witley, Pr. Sci. Nat., B.Sc. (Hons.) Mining Geology, M.Sc. (Eng.), is a qualified person (QP) as defined in National Instrument 43-101 and has reviewed and approved the scientific and technical information relating to Mineral Resources contained in this news release. He is a Principal Mineral Resource Consultant of The MSA Group (Pty.) Ltd., an independent technical consultant to the Company.

Mr. Clive Brown, Pr. Eng., B.Sc. Engineering (Mining), is a qualified person (QP) as defined in National Instrument 43-101 and has reviewed and approved all scientific and technical information other than relating to the mineral resources contained in this news release. He is a Principal Consultant and Director of Bara Consulting Pty Limited, an independent technical consultant to the Company.

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CAUTION REGARDING FORWARD LOOKING STATEMENTS

Information in this news release that is not a statement of historical fact constitutes forward-looking information. Forward-looking statements contained herein include, without limitation, statements relating to the results of the Mpama South PEA, including estimated development costs, estimated quantities of materials to be mined and processed, estimated grades, metallurgical recoveries and quantities of tin to be produced, and estimated costs of production and EBITDA, estimated time for mine construction, the merit and potential viability of the project, estimated Mineral Resources for Mpama South, development of a mine at Mpama South and anticipated exploration activities and outcomes. Forward-looking statements are based on assumptions management believes to be reasonable at the time such statements are made. There can be no assurance that such statements will prove to be accurate, as actual results and future events could differ materially from those anticipated in such statements. Accordingly, readers should not place undue reliance on forward-looking statements. Although Alphamin has attempted to identify important factors that could cause actual results to differ materially from those contained in forward-looking statements, there may be other *factors that cause results not to be as anticipated, estimated or intended. Factors that may cause actual results to differ materially from expected results described in forward-looking statements include, but are not limited to: uncertainties inherent in estimates of Mineral Resources, mine development and operating costs, mining volumes, grades and processing recoveries, particularly in light of the very early stage at which some of these estimates are being made, global economic uncertainties, volatility of metal prices, uncertainties with respect to social, community and environmental impacts, uninterrupted access to required infrastructure, adverse political geopolitical events, impacts of the global Covid-19 pandemic on mining, global supply chain issues which may cause longer lead-times to procure critical equipment and consumables which may delay project implementation as well as those risk factors set out in the Company's Management Discussion and Analysis and other disclosure documents available under the Company's profile at www.sedar.com. Forward-looking statements contained herein are made as of the date of this news release and Alphamin disclaims any obligation to update any forward-looking statements, whether as a result of new information, future events or results or otherwise, except as required by applicable securities laws.*

USE OF NON-IFRS FINANCIAL PERFORMANCE MEASURES

This announcement refers to the following non-IFRS financial performance measures:

EBITDA

EBITDA is profit before net finance expense, income taxes and depreciation, depletion, and amortization. This measure assists readers in understanding the cash generating potential of the project including liquidity to fund working capital, pay *taxes, service debt, and funding capital expenditures and investment opportunities.*

This measure is not recognized under IFRS as it does not have any standardized meaning prescribed by IFRS and is therefore unlikely to be comparable to similar measures presented by other issuers. EBITDA data is intended to provide additional information and should not be considered in isolation or as a substitute for measures of performance prepared in accordance with IFRS.

AISC

This measures the costs to produce a tonne of contained tin plus the capital sustaining costs to maintain the mine, processing plant and infrastructure. AISC includes mine operating production expenses such as mining, processing, administration, indirect charges (including surface maintenance and camp and tailings dam construction costs), smelting costs and deductions, refining and freight, distribution, royalties and product marketing fees. AISC does not include depreciation, depletion, and amortization, reclamation expenses, borrowing costs and exploration expenses. Contractual product marketing fees terminate in August 2024, following which date zero marketing fees have been included in estimated AISC and EBITDA.

Sustaining capital expenditures are defined as those expenditures which do not increase contained tin production at a mine site and excludes all expenditures at the Company's projects and certain expenditures at the Company's operating sites which are deemed expansionary in nature.

Risks relating to Mineral Resource Estimates

The figures for Mineral Resources contained in this news release are estimates only and no assurance can be given that the *anticipated tonnages and grades will be achieved, that the indicated level of recovery will be realized or that the Mineral Resources could be mined or processed profitably. There are numerous uncertainties inherent in estimating Mineral Resources, including many factors beyond the Company's control. Such estimation is a subjective process, and the accuracy of any resource estimate is a function of the quantity and quality of available data and of the assumptions made and judgments used in engineering and geological interpretation. Short-term operating factors relating to the Mineral Resources, such as the need for orderly development of the ore bodies or the processing of new or different ore grades, may cause the mining operation to be unprofitable in any particular accounting period. In addition, there can be no assurance that metal recoveries in small scale laboratory tests will be duplicated in larger scale tests under on-site conditions or during production. Lower market prices, increased production costs, the presence of deleterious elements, reduced recovery rates and other factors may result in revision of its resource estimates from time to time or may render the Company's resources uneconomic to exploit. Resource data is not indicative of future results of operations. If the Company's actual Mineral Resources are less than current estimates or if the Company fails to develop its resource base through the realization of identified mineralized potential, its results of operations or financial condition may be materially and adversely affected.*

Neither the TSX Venture Exchange nor its regulation services provider (as that term is defined in the policies of the TSX Venture Exchange) accepts responsibility for the adequacy or accuracy of this news release.

Appendix 1: SAMPLE PREPARATION, ANALYSES AND QUALITY CONTROL AND QUALITY ASSURANCE (QAQC)

After receipt of diamond drill core from the drillers at the drill rig in marked core trays, core was transported to the Company's core shed by the site geologist for logging and sampling. After sample mark up, lithological and geotechnical logging and photography, the core was split longitudinally in half using a water-cooled rotating diamond blade core saw. The cut core was replaced into the core tray with the half to be sampled facing upward. The Archimedes method of weight in air vs weight in water was used to provide relative density measurements on the whole length of the half core that was to be sampled and then replaced in the core trays.

Air dried samples were placed in pre-numbered sample bags together with pre-printed numbered sample tickets, which were cross-checked afterwards to prevent sample swaps. Sample bags were sealed using a plastic cable tie and then placed into poly-weave sacks which were in turn sealed with plastic cable ties. Each poly-weave sack was marked with a number and the sample numbers contained within, ready for delivery to the on-site Alphamin-Bisie laboratory (managed by Anchem) for sample preparation.

At the laboratory, samples were first checked off against the submission list supplied and then weighed and oven dried for 2 hours at 105 degrees Celsius. The dried samples were crushed by jaw crusher to 75% passing 2mm, from which a 250g riffle split was taken. This 250g split was pulverised in ring mills to 90% passing 75µm from which a sample for analysis was taken. Samples were homogenised using a corner-to-corner methodology and two samples were taken from each pulp, one of 10g for on-site laboratory preliminary assaying and another 150g sample for export and independent accredited 3rd party laboratory assaying.

For the initial on-site laboratory assay, 10 grams of pulverised sample is mixed with 2 grams of binder before press pellet preparation at 20t/psi for 1 minute. Press pellets are analysed in a desktop Spectro Xepos XRF analyser, twelve at a time, for Sn, Fe, Zn, Cu, Ag, Pb and As along with a standard, duplicate and blank. The analytical method conducted on the pressed pellet has an expected 10% precision and an upper detection limit of 70,000ppm and lower detection limit of 500ppm. Over-limit samples are titrated by wet chemistry with an upper limit validation of 70% Sn. The on-site laboratory assays are merely an exploration tool and were not used for reporting the exploration results or Mineral Resource estimation, which are based solely on the ALS assays.

The 150g sample is packaged in sealed paper sample envelopes and packed in a box for export in batches of approximately 500 samples and prepared for export authorisation with national authorities. Once authorisation is received, samples are air-couriered to ALS Global in Johannesburg South Africa, a subsidiary of ALS Limited, which is an independent commercial analytical facility. ALS operations are ISO 9001:2015 certificated and the Johannesburg office is ISO 17025 accredited for Chemical Analysis by SANAS (South African National Accreditation System, facility number T087), although the accreditation does not extend to the methods used for tin.

Received samples at ALS Johannesburg are checked off against the list of samples supplied and logged in the system. Quality Control is performed in the way of sieve tests every 50 samples and should a sample fail, the preceding 50 samples are ground in a ring mill pulveriser using a carbon steel ring set to 85 % passing 75µm. Samples are analysed for tin using method code ME-XRF05 conducted on a pressed pellet with 10% precision and an upper limit of 5,000ppm. The over-limit tin samples are analysed as fused disks according to method ME-XRF15c, which makes use of pre-oxidation and decomposition by fusion with 12:22 lithium borate flux containing 20% Sodium Nitrate as an oxidizing agent, with an upper detection limit of 79% Sn.

Method code ME-ICP61 (HF, HNO3, HClO4 and HCl leach with ICP-AES finish) is used for 33 elements including base metals. ME-OG62, a four-acid digestion, is used on ore grade samples for lead, zinc, copper and silver. Both methods are accredited by SANAS.

The program is designed to include a comprehensive analytical quality assurance and control routine comprising the systematic use of Company inserted standards, blanks and field duplicate samples, internal laboratory standards and analysis at an accredited laboratory. The pulps were accompanied by blind QAQC samples inserted into the sample stream by the Alphamin-Bisie geologists. These comprised blank samples, certified reference materials and pulp duplicates each at an insertion rate of approximately 5%.

The QAQC results demonstrate that the assay results are both accurate and precise with an insignificant amount of contamination (in the order of 10pmm Sn on average) and negligible sampling errors.

Laboratory verification work was conducted by check assays conducted at SGS South Africa (Pty) Ltd. This included 105 check samples submitted in November 2021. These samples comprised duplicated pulps from the maiden resource drillholes derived from the sample preparation at the on-site laboratory. CRMs and blanks to an appropriate level also formed part of the 105-sample submission. Check assay results showed that there was a near zero overall bias and that inter-lab precision, after removal of <0.10% Sn samples,was ~85% within 10% error and ~95% within 20% error. Given the nature of high-grade tin variability and previous knowledge of umpire check exercises at the operation, these results are considered acceptable.

Appendix 2: SIGNIFICANT INTERCEPTS (0.5% Sn lower threshold)

Mpama South Drillholes prefixed “BGH”

Mpama North Drillholes prefixed “MND”

Hole	Easting	Northing	RLm	Azi (°)	Dip (°)	From	To	Sn %	Width	Sample Position		
	GPS	GPS							(m)[1]	mid_x	mid_y	mid_z
BGH017	582535	9884822	732	55	-10	237.8	238.8	4.99	1	582,732	9,884,966	678.6
BGH018	582535	9884822	732	93	0	141.2	144.35	2.07	3.15	582,691	9,884,820	727.9
						145.75	151	0.76	5.25	582,696	9,884,820	727.9
BGH019	582535	9884822	732	85	-5	147	152	2.05	5	582,696	9,884,837	715.8
BGH020	582535	9884822	732	84	-15	160.6	164.4	1.45	3.8	582,704	9,884,846	689.3
						169.3	171.1	5.42	1.8	582,711	9,884,846	687.7
BGH021	582535	9884822	732	93	-15	109.15	110.25	3.2	1.1	582,654	9,884,821	700.1
						164.6	167.32	3.29	2.72	582,708	9,884,818	687.6
BGH022	582554	9884785	732	90	0	75	80.53	3.99	5.53	582,633	9,884,784	729.3
						109	110	1.35	1	582,664	9,884,785	729.9
						119.22	122.1	2.22	2.88	582,676	9,884,785	730.1
BGH023	582535	9884822	732	75	-15	171.43	174.32	1.72	2.89	582,710	9,884,859	683.7
						175.85	178	1.09	2.15	582,714	9,884,860	683
BGH024	582554	9884785	732	103	-5	127.7	129.6	0.54	1.9	582,679	9,884,749	717.2
						137.95	142	1.13	4.05	582,690	9,884,746	716.2
BGH025	582535	9884822	732	55	-20	212.25	213.4	0.6	1.15	582,724	9,884,919	662.3
						218	221.45	2.29	3.45	582,731	9,884,921	660.7
						222.7	223.7	13.05	1	582,734	9,884,923	659.9
						228	234.8	2.73	6.8	582,741	9,884,926	658
BGH026	582554	9884785	732	113	-10	103.71	108	3.3	4.29	582,649	9,884,735	713.7
						134.8	136.45	3.72	1.65	582,676	9,884,722	708.6
						161	162.5	5.61	1.5	582,699	9,884,711	704.5
BGH030	582554	9884785	732	115	-20	110	111.4	7.24	1.4	582,655	9,884,753	692.2
						141.9	152.5	4.85	10.6	582,686	9,884,745	680
						158	161.2	3.61	3.2	582,699	9,884,742	675.3
						174.45	175.8	11.03	1.35	582,713	9,884,738	670.5
BGH032	582554	9884785	732	125	-20	177	178.72	1.7	1.72	582,692	9,884,684	671.3
						182	188.25	3	6.25	582,697	9,884,679	669.1
						190.25	193	0.95	2.75	582,702	9,884,676	667.2
						194.4	202	1.37	7.6	582,707	9,884,672	665.3
						203.5	208	2.67	4.5	582,713	9,884,668	663.2

BGH034	582554	9884785	732	115	-25	174.8	178	11.99	3.2	582,689	9,884,696	653.3
						195.7	200	1.21	4.3	582,706	9,884,686	644.8
						202.37	206.65	1.86	4.28	582,711	9,884,683	642.3
						208	213.3	1.4	5.3	582,716	9,884,680	640.1
						216.25	221.3	1.42	5.05	582,722	9,884,676	637.3
						225.65	231	0.7	5.35	582,730	9,884,671	634
BGH027	582544	9884822	732	68	-27	212.35	214	0.58	1.65	582,729	9,884,879	634
						226	229.3	1.32	3.3	582,741	9,884,883	628.4
						235.45	236.58	1.54	1.13	582,749	9,884,885	625.2
BGH028	582554	9884785	732	90	-10	125	126	1.72	1	582,676	9,884,772	700.9
						136.1	137.18	1.85	1.08	582,687	9,884,770	698.4
						140.28	142	1.03	1.72	582,691	9,884,770	697.4
						147.46	151.25	2.88	3.79	582,699	9,884,769	695.5
BGH029	582544	9884822	732	93	-25	126	128.35	4.66	2.35	582,663	9,884,826	678.5
						178.9	184.05	1.25	5.15	582,713	9,884,827	657.7
						193.7	196.05	3.95	2.35	582,726	9,884,827	653
BGH031	582544	9884822	732	75	-25	208	211.53	0.99	3.53	582,729	9,884,876	639.9
						219.4	222.38	1.16	2.98	582,739	9,884,879	636
BGH033	582544	9884822	732	60	-27	259	265.46	7.32	6.46	582,756	9,884,929	612.8
						268.53	270.52	1.02	1.99	582,762	9,884,931	610
BGH035	582554	9884785	732	90	-25	152	165	2.96	13	582,686	9,884,816	665
						171	173.6	1.47	2.6	582,703	9,884,815	657.4
						176.6	180.08	2.4	3.48	582,709	9,884,814	654.9
BGH036	582544	9884822	732	65	0	147.45	151.35	2.31	3.9	582,687	9,884,878	724.8
						156.63	160.65	0.93	4.02	582,696	9,884,881	724.7
BGH037	582554	9884785	732	105	-30	154	157	3.81	3	582,680	9,884,741	647.5
						194.6	197.55	1.54	2.95	582,712	9,884,730	626
						207.95	211.18	1.29	3.23	582,723	9,884,726	619.3
						216.25	220.15	2.79	3.9	582,730	9,884,723	615.1
						222.4	226.7	1.77	4.3	582,735	9,884,721	612.1
BGH038	582544	9884822	732	75	-30	151.7	154.6	5.22	2.9	582,677	9,884,851	654.3
						218.3	223.65	3.38	5.35	582,735	9,884,861	621.4
						226.7	231.5	1.95	4.8	582,743	9,884,862	617.6
BGH039	582554	9884785	732	100	-22	112.08	113	2.12	0.92	582665.1	9,884,755	687.6
						116.3	120.95	3.33	4.65	582,661	9,884,753	686.1
						145	166	2.2	21	582,696	9,884,744	674.2
						174.5	176	0.95	1.5	582,713	9,884,739	668.9
BGH040	582544	9884822	732	60	-30	232	233	0.95	1	582,725	9,884,922	618.2
						273.7	277.05	3.79	3.35	582,761	9,884,937	600

BGH041	582500	9884847	732	55	-25	340	344.5	3.03	4.5	582,807	9,885,002	599.5
BGH042	582544	9884822	732	60	-35	277.35	280	1.93	2.65	582,751	9,884,922	569.4
						308.5	312	0.62	3.5	582,776	9,884,932	552.6
						313	315.55	1.52	2.55	582,779	9,884,933	550.5
BGH043	582544	9884822	732	100	-10	102.5	104.15	2.69	1.65	582,644	9,884,808	709
						123	124	1.06	1	582,663	9,884,805	704.8
						163.64	167	2.82	3.36	582,704	9,884,798	696.7
BGH044	582500	9884847	710	70	-35	330	334.13	1.31	4.13	582,764	9,884,941	533.4
BGH045	582544	9884822	732	100	-20	120.65	121.75	31.55	1.1	582,656	9,884,806	687.4
						156	159.4	0.56	3.4	582,689	9,884,799	674.7
						176.7	183.62	3.24	6.92	582,708	9,884,795	668.1
BGH046	582544	9884822	732	100	-30	195.18	206	2.85	10.82	582,712	9,884,795	630.5
						212.53	215.18	1.9	2.65	582,723	9,884,793	623.7
						218	220.6	7.16	2.6	582,728	9,884,792	620.8
						225	226	4.36	1	582,733	9,884,791	617.7
BGH047	582565	9884535	718	60	0	121.58	124.57	0.91	2.99	582,653	9,884,879	739.2
						147.09	148.09	1.28	1	582,675	9,884,889	741.1
BGH048	582567	9884509	727	90	0	140.75	143.05	0.9	2.3	582,708	9,884,496	727.7
						146.53	148	0.74	1.47	582,713	9,884,495	728
BGH049	582565	9884535	718	65	-15	145.4	147.4	4.27	2	582,689	9,884,599	674.5
BGH050	582567	9884509	727	105	-5	160	161.38	1.06	1.38	582,722	9,884,469	711.7
BGH051	582565	9884535	718	40	0	134.8	137	2.23	2.2	582,662	9,884,630	712.3
						151	156.3	1.2	5.3	582,675	9,884,642	711.4
						164.18	169.45	3.95	5.27	582,685	9,884,651	710.8
						171.27	172.57	4.08	1.3	582,688	9,884,655	710.6
BGH052	582567	9884509	727	120	0	205.9	207.1	1.86	1.2	582,732	9,884,385	722.9
BGH053	582565	9884535	718	40	-15	173.73	176.93	9.58	3.2	582,685	9,884,653	669.2
						178.55	181.43	4.07	2.88	582,688	9,884,656	667.9
						192.41	196.86	3.28	4.45	582,698	9,884,666	664
						198.86	206.77	2.45	7.91	582,704	9,884,671	661.8
						207.53	209.5	5.04	1.97	582,708	9,884,675	660.3
						214.65	216	2.32	1.35	582,713	9,884,680	658.6
BGH054						No significant intercepts						
BGH055	582565	9884535	718	80	-15	145	146	0.62	1	582,705	9,884,549	682.7
BGH056	No significant intercepts											
BGH057	No significant intercepts											
BGH058	582565	9884510	727	95	-5	153.35	155.6	1.98	2.25	582,717.30	9,884,501.20	703.9
BGH059	582567	9884536	718	95	0	165	166	3.63	1	582,732.30	9,884,528.30	714.4
BGH060	No significant intercepts											

BGH061	582567	9884536	727	130	-10	157.57	159.19	1.22	1.62	582,719	9,884,525	677.7
BGH062	582567	9884537	718	95	-15	154	156	2.18	2	582,695	9,884,589	650.2
BGH063	582782	9884646	829	270	-70	186.25	194.37	0.82	8.12	582,719	9,884,661	650.5
						197.42	202.45	1.12	5.03	582,715	9,884,661	641.8
						205	209.05	0.83	4.05	582,712	9,884,661	635.4
						211.13	218.9	2.06	7.77	582,709	9,884,661	628.3
						220.4	222.55	0.86	2.15	582,706	9,884,661	622.5
						231	233	0.87	2	582,701	9,884,661	613
BGH064	582888	9884976	839	270	-50	220.8	222.6	0.63	1.8	582,746	9,884,976	668.9
BGH065	582913	9885057	819	270	-60	271	275.95	2.93	4.95	582,769	9,885,057	586.1
						291.56	292.56	1.7	1	582,759	9,885,057	570.9
BGH066	582888	9884976	839	270	-60	276	278.59	8.49	2.59	582,754	9,884,965	596.1
						300	301	1.78	1	582,742	9,884,965	576.6
BGH067	582913	9885057	819	270	-67	295.75	300.47	3.21	4.72	582,789	9,885,065	548.1
						303	304.62	1.56	1.62	582,786	9,885,065	543.1
						337	338	0.55	1	582,769	9,885,068	514.3
BGH068	582913	9885057	819	270	-50	247	248.2	2.1	1.2	582,749	9,885,051	633.1
						251.8	255.1	1.75	3.3	582,745	9,885,051	628.8
BGH069	582888	9884976	839	270	-70	321.8	324.73	3.84	2.93	582,779	9,884,962	534.7
BGH070	582913	9885057	819	270	-73	331	336.35	3	5.35	582,802	9,885,040	505.2
BGH071	No significant intercepts											
BGH072	582852	9884845	831	270	-67	274.6	279.7	2.7	5.1	582,749	9,884,847	574
						290.4	294.8	3.61	4.4	582,742	9,884,847	560
BGH073	582731	9884691	838	280	-60	121	123	0.72	2	582,671	9,884,702	731.9
BGH074	582944	9885130	798	270	-67	278.9	283.93	2.85	5.03	582,810	9,885,137	551.2
						285.49	289.1	1.6	3.61	582,807	9,885,138	546.3
						294.51	297.3	7.14	2.79	582,802	9,885,139	539.1
						299.65	303.34	0.53	3.69	582,799	9,885,139	534.5
BGH075	582731	9884691	838	270	-70	115.4	116.65	6.76	1.25	582,690	9,884,690	729.4
						119.5	120.8	15.22	1.3	582,688	9,884,690	725.7
						125.09	129.8	3.56	4.71	582,684	9,884,690	719.3
						162.55	164.63	8.94	2.08	582,667	9,884,689	687.8
BGH076	582752	9884801	849	300	-40	108	109	0.84	1	582,682	9,884,844	779.6
						118.8	119.45	3.71	0.65	582,675	9,884,848	772.7
						128.15	131	2.82	2.85	582,668	9,884,852	765.8
						136.7	137	0.97	0.3	582,663	9,884,855	761

BGH077	582944	9885130	798	270	-72	316.84	321.2	2.57	4.36	582,830	9,885,130	501.7
						323	328.36	2.56	5.36	582,827	9,885,130	495.8
						329.06	330.13	0.52	1.07	582,825	9,885,130	492.4
						335.25	337.36	9.63	2.11	582,822	9,885,130	486.5
						339.77	340.07	7.07	0.3	582,820	9,885,131	483.4
BGH078	582752	9884801	849	280	-40	102	106	1.88	4	582,674	9,884,816	782.6
						108	109	0.62	1	582,671	9,884,817	779.7
						115	117.15	0.8	2.15	582,665	9,884,818	774.8
BGH079	582852	9884845	831	270	-73	290.15	294.4	1	4.25	582,765	9,884,842	552.6
						296.3	302.3	9.46	6	582,763	9,884,841	546.1
						304.81	305.7	18.75	0.89	582,761	9,884,841	540.5
						312	313	1.08	1	582,758	9,884,841	533.8
						316.9	321.63	4.65	4.73	582,755	9,884,840	527.5
						322.57	328	5.41	5.43	582,753	9,884,840	522
						328.95	329.48	1.59	0.53	582,751	9,884,840	518.4
						340.68	341.42	4.29	0.74	582,747	9,884,839	507.6
BGH080	582944	9885130	798	270	-75	339.9	343.6	1.05	3.7	582,853	9,885,141	469.2
						345	346.55	4.11	1.55	582,851	9,885,141	465.5
						360.7	361	11.95	0.3	582,846	9,885,143	451.5
BGH081a	583022	9885299	776	270	-50	269	274.56	1.99	5.56	582,838	9,885,306	578.6
						275.56	275.86	0.64	0.3	582,835	9,885,307	576
BGH082a	583013	9885209	752	270	-50	263.83	266.3	3.43	2.47	582,836	9,885,222	556
						268.35	269.15	3.32	0.8	582,833	9,885,223	553.5
						276.97	277.27	15.65	0.3	582,827	9,885,224	547.9
BGH083						No significant intercepts						
BGH084	583023	9885299	776	270	-57	278.95	280.9	6.25	1.95	582,857	9,885,307	552.8
						283.06	286.31	1.28	3.25	582,854	9,885,307	549.2
BGH085	583023	9885299	776	270	-65	294.65	298.35	0.83	3.7	582,890	9,885,304	512.9
BGH086	583013	9885208	752	270	-57	275.35	280.78	3.07	5.43	582,847	9,885,214	530.1
						286.05	286.51	18.9	0.46	582,841	9,885,215	524.4
BGH087	583023	9885299	777	270	-75	263.75	264.28	0.59	0.53	582,946	9,885,305	525.0

BGH088	583012	9885208	752	270	-67	297.74	299.46	11.93	1.72	582,876	9,885,221	487.3
						301	301.77	6.79	0.77	582,875	9,885,221	485.0
						303.7	304	2.47	0.3	582,873	9,885,222	483.0
						305.7	306	1.66	0.3	582,872	9,885,222	481.4
						307.2	307.55	6.66	0.35	582,871	9,885,223	480.2
						308.26	308.93	12.15	0.67	582,871	9,885,223	479.2
						309.46	309.77	1.98	0.31	582,870	9,885,223	478.3
						310.35	310.68	17.65	0.33	582,869	9,885,223	477.6
						313	313.85	2.82	0.85	582,868	9,885,224	475.3
						324.48	324.86	5.77	0.38	582,861	9,885,226	466.3
						325.43	325.83	10.40	0.4	582,861	9,885,226	465.6
BGH089	582951	9885352	779	270	-50	198	199	4.58	1	582,822	9,885,357	628.9
						202.65	203.45	12.25	0.8	582,819	9,885,357	625.5
						205.1	205.54	7.96	0.44	582,818	9,885,357	623.7
						217.45	218.45	31.90	1	582,809	9,885,358	614.1
BGH090	582951	9885423	769	270	-50	168.8	170.48	2.45	1.68	582,843	9,885,424	638.3
						170.88	171.48	12.55	0.6	582,842	9,885,424	637.1
						172.97	173.3	5.05	0.33	582,841	9,885,424	635.6
BGH091	582951	9885352	779	270	-65	222.1	223.5	4.02	1.4	582,850	9,885,358	581.3
BGH092	583021	9885430	752	270	-55	193.5	193.88	17.15	0.38	582,913	9,885,431	591.9
BGH093	583013	9885345	759	270	-70	224.25	224.75	4.06	0.5	582,932	9,885,341	549.9
						225.8	226.72	1.81	0.92	582,931	9,885,341	548.3
						227.7	228.3	2.75	0.6	582,930	9,885,341	546.7
BGH094	582990	9885055	810	270	-65	381	384.81	3.84	3.81	582,808	9,885,054	473.5
						389.74	390.25	5.95	0.51	582,805	9,885,054	467.4
						408.45	411	5.82	2.55	582,795	9,885,054	450.4
BGH095	582960	9884759	831	270	-60	391.57	399.6	4.56	8.03	582,773	9,884,762	482.7
						400	401	1.85	1	582,770	9,884,761	478.6
						405	411.97	4.47	6.97	582,766	9,884,761	471.9
						414	414.3	1.36	0.3	582,763	9,884,761	467.2
BGH096						No significant intercepts						
BGH097	583013	9885345	759	270	-58	242	245.5	1.10	3.5	582,879	9,885,344	555.7
						247	250.1	2.66	3.1	582,876	9,885,344	551.8
BGH099						No significant intercepts						
BGH100	583013	9885345	759	270	-79	226.76	231.27	2.09	4.51	582,965	9,885,347	535.2
						233.08	235	1.58	1.92	582,964	9,885,347	530.3

						387.37	388.62	2.66	1.25	582,802	9,884,968	474.7
						392.33	394.68	1.49	2.35	582,799	9,884,968	470.1
BGH101	582990					396	398.24	0.53	2.24	582,797	9,884,968	467.1
						402.74	410.2	3.68	7.46	582,792	9,884,967	459.3
		9884975	813	270	-65	423.64	425.48	13.48	1.84	582,781	9,884,967	444.5
BGH102						No significant intercepts						
MND001						No significant intercepts						
MND002						No significant intercepts						
MND003						No significant intercepts						
MND004	583392	9886283	682	270	-52	524.76	525.06	0.67	0.3	582,994	9,886,250	347
MND005	No significant intercepts											
MND006	No significant intercepts											
MND007	583100	9886210	726	270	-75	402	402.45	0.58	0.45	582,987	9,886,211	340.5
MND009	582881	9886200	752	270	-65	96.35	96.75	2.28	0.4	582,842	9,886,200	667.3
MND010	No significant intercepts											
MND011	583103	9886211	726	270	-83	419.26	428	21.85	8.74	583,021	9,886,194	312.7
						430.6	438.9	17.52	8.3	583,018	9,886,193	302
MND012	582950	9886140	765	270	-60	64.7	65.35	12.2	0.65	582,916	9,886,142	699.8
MND013	582945					142.7	142.98	10.05	0.28	582,852	9,886,146	651.2
		9886142	759	270	-50	177	178	1.02	1	582,829	9,886,146	625.5
MND014						No significant intercepts						
MND015a	582950	9886140	755	270	-70	172.32	172.68	6.34	0.36	582,887	9,886,144	594.8
MND016	583063	9886162	741	270	-50	249.42	253	0.62	3.58	582,895	9,886,161	554.1
MND017	583200	9886170	745	270	-50	385	386	1.02	1	582,952	9,886,164	450.4
MND018	583063	9886162	741	270	-60	284.7	285	11.7	0.3	582,912	9,886,160	499.2
MND019						432.24	444	25.94	11.76	582,996	9,886,161	357.6
	583200	9886170	745	270	-64	445	445.55	15.3	0.55	582,993	9,886,160	351.6
			1. Apparent widths, not true thickness									

Appendix 3: Checklist of Assessment and Reporting Criteria

Drilling techniques	All drillholes were diamond drill cored and drilled from surface (most intersections drilled using NQ size), holes drilled orientated in an east-west direction were angled between -60° and -70°. Holes collared in the west were drilled out in fan patterns into the side of a hill and angled between 0° and minus 35°.
Logging	All of the drillholes were geologically logged by qualified geologists. The logging is of an appropriate standard for grade estimation.
Drill sample recovery	Core recovery in the mineralised zones was observed to be very good and is on average 97%.

Sampling methods	Half core samples were collected continuously through the mineralised zones after being cut longitudinally in half using a diamond saw. Drillhole samples were taken at nominal 1 m intervals, which were adjusted to smaller intervals in order to target the cassiterite vein zones. Lithological contacts were honoured during the sampling. MSA's observations indicated that the routine sampling was performed to a reasonable standard and is suitable for evaluation purposes.

Quality of assay data and laboratory tests	At the on-site ABM laboratory (managed by Anchem), samples were first checked off against the submission list supplied and then weighed and oven dried for 2 hours at 105 degrees Celsius. The dried samples were crushed by jaw crusher to 75% passing 2mm, from which a 250g riffle split was taken. This 250g split was pulverised in ring mills to 90% passing 75µm from which a sample for analysis was taken. Samples were homogenised using a corner-to-corner methodology and two samples were taken from each pulp, one of 10g for on-site laboratory assaying and another 150g sample for export and independent accredited 3rd party laboratory assaying. Received samples at ALS Johannesburg are checked off against the list of samples supplied and logged in the system. Quality Control is performed by way of sieve tests every 50 samples and should a sample fail, the preceding 50 samples are ground in a ring mill pulveriser using a carbon steel ring set to 85 % passing 75µm. Samples are analysed for tin using method code ME-XRF05 conducted on a pressed pellet with 10% precision and an upper limit of 5,000ppm. The over-limit tin samples are analysed as fused disks according to method ME-XRF15c, which makes use of pre-oxidation and decomposition by fusion with 12:22 lithium borate flux containing 20% Sodium Nitrate as an oxidizing agent, with an upper detection limit of 79% Sn. Prior to the 2021 drilling the assays were also conducted at ALS Global in Johannesburg where samples were analysed for tin using fused disc ME-XRF05 with 10% precision and an upper limit of 10 000 ppm. This was reduced to 5,000 ppm from 2014 onwards. Over limit samples were sent to Vancouver for ME-XRF10 which uses a Lithium Borate 50:50 flux with an upper detection limit of 60% and precision of 5%. ME-ICP61, HF, HNO3, HCL04 and HCL leach with ICP-AES finish was used for 33 elements including base metals. ME-OG62, a four-acid digestion, was used on high grade samples for Pb, Zn, Cu & Ag. External quality assurance of the laboratory assays for the Alphamin samples was monitored. Blank samples (223), certified reference materials (310) and duplicate samples (277) were inserted with the field samples accounting for approximately 11% of the total sample set. The QAQC measures used by Alphamin revealed the following: • Blank samples indicated that no significant contamination occurred overall. Low levels of contamination (mostly <200 ppm Sn) mostly occurred, however 9 values between 229 ppm and 1,285 ppm were returned. Given the high grades at Bisie, the levels of contamination are not significant. • Five different CRMs were used with expected values between 0.18% and 31.42% Sn. The lower grade CRMs were prepared by Ore Research and Exploration (OREAS) and the two high grade CRMs (4.19% and 31.42% Sn) by the Bureau of Analysed Samples Ltd (BCS). In general, ALS returned values within the tolerance limits (three standard deviations) for the OREAS CRMs, although slightly lower than the expected value. Assays of the highest grade BCS CRM were mostly outside of the three standard deviation limits but within ±4%of the expected value. The update assays of the high grade BCS-355 CRM were within ±6% of the expected value with no overall bias relative to the CRM expected value. For the 5.07% Sn BCS CRM, assays were consistently lower than the expected value by as much as 7%. This trend continued for the update assays with an average under-assay of 7% relative to the CRM expected value. Overall, the CRMs results indicate a slight negative bias for the ALS assays. • Coarse duplicates show mostly excellent correlation, indicating minimal error in the process and a high degree of repeatability.

Verification of sampling and assaying	The mineralisation in thirteen of the drillholes completed in 2021 at Mpama South were visually verified during a site-visits by the QP in August 2021 and several of the initial drillholes were examined during earlier site visits to Bisie. The QP observed the mineralisation in the cores and compared it with the assay results. It was found that the assays generally agreed with the observations made on the core. Core photos from the drilling programme have regularly been provided to the QP for inspection. 105 pulp duplicates were sent to SGS (Johannesburg) in November 2021 for confirmation assaying. • The pulp duplicates showed acceptable correlation with the ALS assays at both high- and low-grade ranges with an overall bias of near zero. - Average bias for grade ranges > 1% is less than 1%. - Tendency for ALS to be higher (~5%) for the grade ranges less than 1%. • Inter-lab precision (after removal of <0.10%) is 85% within 10% error and 95% within 20% error
Location of data points	The drillhole collar positions were surveyed using a differential GPS. Downhole surveys were completed using a multishot down-hole survey instrument (Reflex EZ-Track), or north seeking gyro (Reflex EZ-Gyro / Reflex Gyro Sprint-IQ).
Tonnage factors (in situ bulk densities)	Relative density measurements were made on the majority of recent drillhole samples using the Archimedes Principle of weight in air versus weight in water. A regression formula of tin grade against relative density was developed and applied to the samples that did not have direct measurements. The assigned specific gravity was interpolated into the block model using ordinary kriging.
Data density and distribution	A total of 107 holes were drilled in Mpama South. Holes were drilled steeply from east to west, along section lines spaced approximately 60 m to 80 m apart. Several sets of holes were drilled in a fan pattern into the side of a steep hill, with orientations spanning from the northeast to the southeast (from azimuth 045° to 125°). These drillholes fans intersect the mineralisation 25 m to 40 m apart in most of the Mineral Resource area.
Database integrity	Data was provided as Excel files. MSA completed spot checks on the database and is confident that the Alphamin database is an accurate representation of the original data collected.
Dimensions	The mineralisation consists of seven zones, with a total extent of 1 110 m along strike. The two main zones are MZ1 which has a strike length of 900 metres and 350 m down-dip and MZ2, with a strike length of 650 m and 350 m down-dip, accounting for 88% of the Mineral Resource. The zones occurring in the footwall and hangingwall of the MZ1 and MZ2 tend to be narrower and irregular in shape with strike lengths from 100 m to 300 m. MZ6, which is located to the south has a strike length of 270 m and a dip length of 110 m.

Geological interpretation	The mineralised intersections in drill core are clearly discernible. The Mineral Resource is interpreted to occur as irregular tabular mineralised zones, dipping 65-70° to the east, containing several narrow veins and disseminations of cassiterite. The mineralised zones are hosted in chlorite schist that is the result of intense hydrothermal alteration associated with a fracture system. The two main zones of the Mineral Resource (MZ1 and MZ2) are continuous for almost 900 m, with average thicknesses of 4.1 m and 3.4 m respectively. However, the thicknesses of these two zones vary from as little as 1 m, up to 14 m thick. Three smaller zones (MZ3 to MZ5) occur in the footwall of the main mineralisation which progressively become narrower, moving away from the main zone. MZ3 thickness ranges from 1 m to 9 m with an average thickness of 1.5 m. MZ4 has an average thickness of 1 m, attaining a maximum thickness of 5 m. MZ5 has an average thickness of 1.2 m, ranging from 1 m to 5 m. All zones become narrower along the edges, where they pinch-out. A small, narrow zone (MZ7) occurs in the hangingwall of the main mineralisation with an average thickness of 0.5 m and a maximum thickness of 4 m. MZ6, which occurs to the south, tends to be lower in grade and has an average thickness of 4 m, ranging from 1 m up to 9 m. A three-dimensional wireframe model was created for the seven zones of mineralisation based on a grade threshold of 0.40% Sn. The MZ1 and MZ2 make up the main zone, which are the most consistent zones and occur within a persistent chlorite schist. Narrower less continuous zones occur above and below the main zone within chlorite-mica schists.
Domains	The mineralisation was modelled as seven tabular zones containing irregular vein style mineralisation. A hard boundary was used to select data for estimation in order to honour the sharp nature of vein boundaries.
Compositing	Sample lengths were composited to 1 m by length and density weighting.
Statistics and variography	Statistics for the seven estimation domains show distributions that are positively skewed with coefficients of variation (CV) ranging from 1.33 to 1.97, the only exception being domain MZ7 which shows lower variability due to very few composites resulting in a CV of 0.79. The two main zones (MZ1 and MZ2) have similar average tin grades (2.30% and 2.07% respectively). The smaller, footwall zones (MZ3 to MZ5) are higher in tin grade with averages ranging from 2.4% to 4.11% while MZ6 and MZ7 are lower in tin grade, with an average of 0.57% and 1.05% respectively. Normal Scores semivariograms were calculated in the plane of the mineralisation, down-hole and across strike. Variograms were modelled for tin, with a range of 40 m within the plane of mineralisation and with a range of 3 m across the structures.
Top or bottom cuts for grades	Top caps were applied to outlier values, identified as breaks in the cumulative, probability plots.
Data clustering	Data clustering occurs where the fan drilling, collared on the western side of the deposit, intersect the surface drilling collared in the east, resulting in a data spacing of 25 m to 40 m towards the centre of the deposit. Outside of this area, the grid spacing becomes more regular, 60m to 80 m along strike and 50 m down-dip.
Block size	A rotated block model with a parent cell of 10 mX by 10 mY by 2 mZ was used. Sub-celling was used to divide the parent cells to a minimum sub-cell of 1 mX by 1mY by 0.2 mZ to closely fit the narrow portions of the vein structures

Grade estimation	Tin, copper, lead, zinc, silver, arsenic and density were estimated using ordinary kriging. A minimum number of 5 and a maximum of 10 one metre composites were required for the tin and density estimates. A minimum of 5 and maximum of 8 composites were used for the other elements. Estimation was carried out in three passes, with the first pass using search volumes coinciding with the variogram ranges. A second pass estimate expanded the search volumes by a factor of 1.5 to estimate blocks where insufficient samples were present for an estimate in the first pass. Where blocks remained un-estimated from the first two passes, a third pass, using an expansion factor of 10 was used to ensure all blocks in the model received a grade and density estimate. Dynamic Anisotropy was used to orientate the search volumes to the strike and dip of the individual mineralised zones.
Resource classification	Indicated Mineral Resources were declared where the drillhole spacing is approximately 40 m and where the geological model has low variability. The remainder of the interpreted model was classified as Inferred Mineral Resources, corresponding to areas informed by drilling spaced 50 m to 80 m apart with a maximum extrapolation of 20 m from the nearest drillhole.
Mining cuts and cut-off grade assumptions.	A minimum of 1 m was applied to the mineralisation model. The thickness, grade and steep dip implies that the Mineral Resource can be extracted using established underground mining methods similar to those applied at Mpama North. A 1% cut-off grade was applied based on the Mpama North costs and prevailing tin price. Isolated blocks above cut-off grade in dominantly low-grade areas of the model were not included in the Mineral Resource
Metallurgical factors or assumptions	The tin mineralisation occurs as cassiterite, an oxide of tin (SnO_2). At Mpama North gravity separation is used to produce a tin concentrate. The Cu, Zn and Pb mineralisation occurs as sulphides, which are removed by flotation to create the cassiterite product. It is assumed that similar processes will be used to process the Mpama South mineralisation.
Legal aspects and tenure	Alphamin through its wholly owned DRC subsidiary, Alphamin Mining Bisie SA, has a Mining License PE 13155 which includes the Bisie Tin Mine. Alphamin has an 84.14 percent interest in ABM. The Government of the Democratic Republic of Congo (GDRC) has a non-dilutive, 5% share in ABM.
Audits, reviews and site inspection	The following review work was completed by MSA: • Inspection of approximately 20% of mineralised core intersections used in the Maiden Mineral Resource estimate. • Database checks. • Inspection of Mpama South drill sites in August 2021. • On-site review of the exploration processes. • Laboratory inspections.

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[1] Data obtained from International Tin Association Tin Industry Review 2020.

[2] This is a non-GAAP financial measure, is not standardized and may not be comparable to similar financial measures of other issuers. See “Use of Non-IFRS Financial Performance Measures” below for a further explanation of this performance metric and

how it is calculated.

[3] Data obtained from Preliminary Economic Assessment study announced on 7 March 2022.

[4] CIM Definition: An Indicated Mineral Resource is that part of a Mineral Resource for which quantity, grade or quality, densities, shape and physical characteristics are estimated with sufficient confidence to allow the application of Modifying Factors insufficient detail to support mine planning and evaluation of the economic viability of the deposit.

[5] CIM Definition: An Inferred Mineral Resource is that part of a Mineral Resource for which quantity and grade or quality are estimated on the basis of limited geological evidence and sampling. Geological evidence is sufficient to imply but not verify geological and grade or quality continuity.