

# Alphamin Announces a 46% Increase in the Mpama South Inferred Mineral Resource Estimate

written by Raj Shah | June 3, 2022

June 3, 2022 ([Source](#)) – Alphamin Resources Corp. (AFM:TSXV, APH:JSE AltX, “Alphamin” or the “Company”), a producer of 4% of the world’s mined tin<sup>1</sup> from its high-grade operation in the Democratic Republic of Congo, is pleased to announce an updated Mpama South Mineral Resource estimate.

## HIGHLIGHTS

- **Mpama**

**South updated Inferred Resource up 46% to 4.99Mt** based on assays from 22 additional extensional drillholes. Mpama South Mineral Resource now stands at:

- 0.84Mt @ 2.53% Sn for 21.4kt contained tin in the Indicated category; and
- 4.99Mt @ 2.50% Sn for 124.7kt contained tin in the Inferred category

- **Significant additional resource growth potential at Mpama South**

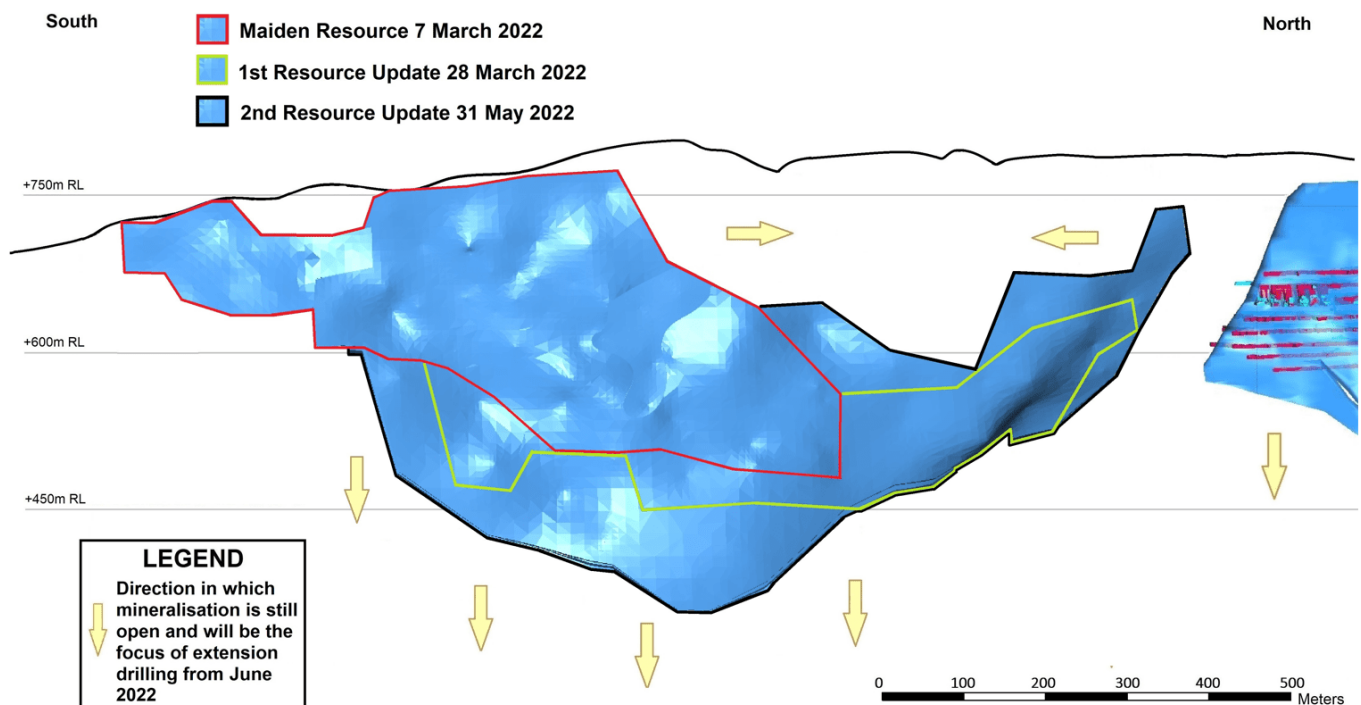
- Mpama South **in-fill drilling on track** for completion by July 2022, **extension drilling recommences in June 2022**
- Mpama South early development works in progress – project completion expected to increase Alphamin’s annual contained tin production from the current 12,000tpa to **~20,000tpa, approximating 6.6% of the world’s mined tin<sup>1</sup>**

## Mpama South Updated Mineral Resource Estimate

The updated Mineral Resource for Mpama South follows two months after the previous update announced on 29 March 2022 and three months after the Maiden Mineral Resource announced 7<sup>th</sup> March 2022. The update is based on further receipt of assays for another 22 extensional drillholes completed subsequent to the previous estimate which was based on 102 drillholes. The updated Mineral Resource is presented in Figure 1.

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 now includes results from 124 drillholes as well as 6 drillholes in the Wedge area from the earlier drilling to 2015. The MRE 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.

**Figure 1: Updated Mpama South Mineral Resource Progression and Additional Expansion Potential**



Source: Alphamin 2022

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 46% to 4.99Mt. The Mineral Resource Statement with an effective date of 31 May 2022 is presented in Table 1:-

**Table 1: Updated Mpama South Mineral Resources effective date 31 May 2022**

<b>Classification</b>	<b>Tonnes (millions)</b>	<b>Sn %</b>	<b>Sn Tonnes (thousands)</b>
Indicated <sup>2</sup>	0.84	2.53	21.4
Inferred <sup>3</sup>	4.99	2.50	124.7

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 27 additional drillholes have been drilled within and beyond the limits of the updated MRE presented in Figure 1. The majority of these are part of an in-fill drilling campaign targeting conversion of Inferred Resources to Indicated Resource confidence. The infill campaign commenced in March 2022 and will be completed by July 2022. An updated MRE is expected to be announced in Q3 2022.

Extensional drilling down dip and in the shallower northern portion of Mpama South will re-commence in June 2022 to carry on extending known mineralisation which is still open in multiple directions. The Company targets releasing expanded Mpama South MRE updates throughout the remainder of the drilling phases in

2022 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.

### **Early-Works Progress on the Development of Mpama South**

Early works completed to date since the Company's announcement of the development decision on 29<sup>th</sup> March 2022 are as follows:

- EPCM contract awarded to Obsideo (who successfully executed the fine tin plant in 2021)
- Long lead time plant capital orders have been placed as well as steel structure orders
- Mpama South access road completed and site clearing commenced
- Bidding completed and under evaluation for bulk earthworks and civil contracts

### **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 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.

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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 anticipated future exploration and resource estimation activities and outcomes and the timing thereof and expected increases in tin production from the development of the Mpama South deposit. 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: uncertainty of future exploration and assay results and consistency with past results and expectations; uncertainties related to the technical and*

*economic parameters applied in the Mpama South Preliminary Economic Assessment regarding forecasted tin prices, the tin grade mined and processing recoveries as well as operating costs; uncertainties inherent in estimates of Mineral Resources, global geopolitical and economic uncertainties, volatility of metal prices, uncertainties with respect to social, community and environmental impacts, uninterrupted access to required infrastructure, adverse political events, impacts of the global Covid-19 pandemic 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](http://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.*

*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)**

For sample preparation, analyses and quality control and quality assurance, see the Company's news release dated 07 March 2022 entitled "ALPHAMIN ANNOUNCES MAIDEN MINERAL RESOURCE ESTIMATE AND POSITIVE PRELIMINARY ECONOMIC ASSESSMENT FOR MPAMA SOUTH"

#### **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) <sup>1</sup>	mid_x	mid_y	mid_z
BGH017	582535	9884822	732	55	-10	237.8	238.8	4.99	1.00	582,732	9,884,966	678.6
BGH018	582535	9884822	732	93	0	141.2	144.4	2.07	3.15	582,691	9,884,820	727.9
						145.8	151.0	0.76	5.25	582,696	9,884,820	727.9
BGH019	582535	9884822	732	85	-5	147.0	152.0	2.05	5.00	582,696	9,884,837	715.8
BGH020	582535	9884822	732	84	-15	160.6	164.4	1.45	3.80	582,704	9,884,846	689.3
						169.3	171.1	5.42	1.80	582,711	9,884,846	687.7
BGH021	582535	9884822	732	93	-15	109.2	110.3	3.20	1.10	582,654	9,884,821	700.1
						164.6	167.3	3.29	2.72	582,708	9,884,818	687.6
BGH022	582554	9884785	732	90	0	75.0	80.5	3.99	5.53	582,633	9,884,784	729.3
						109.0	110.0	1.35	1.00	582,664	9,884,785	729.9
						119.2	122.1	2.22	2.88	582,676	9,884,785	730.1
BGH023	582535	9884822	732	75	-15	171.4	174.3	1.72	2.89	582,710	9,884,859	683.7
						175.9	178.0	1.09	2.15	582,714	9,884,860	683.0
BGH024	582554	9884785	732	103	-5	127.7	129.6	0.54	1.90	582,679	9,884,749	717.2
						138.0	142.0	1.13	4.05	582,690	9,884,746	716.2
BGH025	582535	9884822	732	55	-20	212.3	213.4	0.60	1.15	582,724	9,884,919	662.3
						218.0	221.5	2.29	3.45	582,731	9,884,921	660.7
						222.7	223.7	13.05	1.00	582,734	9,884,923	659.9
						228.0	234.8	2.73	6.80	582,741	9,884,926	658.0
BGH026	582554	9884785	732	113	-10	103.7	108.0	3.30	4.29	582,649	9,884,735	713.7
						134.8	136.5	3.72	1.65	582,676	9,884,722	708.6
						161.0	162.5	5.61	1.50	582,699	9,884,711	704.5
BGH030	582554	9884785	732	115	-20	110.0	111.4	7.24	1.40	582,655	9,884,753	692.2
						141.9	152.5	4.85	10.60	582,686	9,884,745	680.0
						158.0	161.2	3.61	3.20	582,699	9,884,742	675.3
						174.5	175.8	11.03	1.35	582,713	9,884,738	670.5
BGH032	582554	9884785	732	125	-20	177.0	178.7	1.70	1.72	582,692	9,884,684	671.3
						182.0	188.3	3.00	6.25	582,697	9,884,679	669.1
						190.3	193.0	0.95	2.75	582,702	9,884,676	667.2
						194.4	202.0	1.37	7.60	582,707	9,884,672	665.3
						203.5	208.0	2.67	4.50	582,713	9,884,668	663.2

BGH034	582554	9884785	732	115	-25	174.8	178.0	11.99	3.20	582,689	9,884,696	653.3
						195.7	200.0	1.21	4.30	582,706	9,884,686	644.8
						202.4	206.7	1.86	4.28	582,711	9,884,683	642.3
						208.0	213.3	1.40	5.30	582,716	9,884,680	640.1
						216.3	221.3	1.42	5.05	582,722	9,884,676	637.3
						225.7	231.0	0.70	5.35	582,730	9,884,671	634.0
BGH027	582544	9884822	732	68	-27	212.4	214.0	0.58	1.65	582,729	9,884,879	634.0
						226.0	229.3	1.32	3.30	582,741	9,884,883	628.4
						235.5	236.6	1.54	1.13	582,749	9,884,885	625.2
BGH028	582554	9884785	732	90	-10	125.0	126.0	1.72	1.00	582,676	9,884,772	700.9
						136.1	137.2	1.85	1.08	582,687	9,884,770	698.4
						140.3	142.0	1.03	1.72	582,691	9,884,770	697.4
						147.5	151.3	2.88	3.79	582,699	9,884,769	695.5
BGH029	582544	9884822	732	93	-25	126.0	128.4	4.66	2.35	582,663	9,884,826	678.5
						178.9	184.1	1.25	5.15	582,713	9,884,827	657.7
						193.7	196.1	3.95	2.35	582,726	9,884,827	653.0
BGH031	582544	9884822	732	75	-25	208.0	211.5	0.99	3.53	582,729	9,884,876	639.9
						219.4	222.4	1.16	2.98	582,739	9,884,879	636.0
BGH033	582544	9884822	732	60	-27	259.0	265.5	7.32	6.46	582,756	9,884,929	612.8
						268.5	270.5	1.02	1.99	582,762	9,884,931	610.0
BGH035	582554	9884785	732	90	-25	152.0	165.0	2.96	13.00	582,686	9,884,816	665.0
						171.0	173.6	1.47	2.60	582,703	9,884,815	657.4
						176.6	180.1	2.40	3.48	582,709	9,884,814	654.9
BGH036	582544	9884822	732	65	0	147.5	151.4	2.31	3.90	582,687	9,884,878	724.8
						156.6	160.7	0.93	4.02	582,696	9,884,881	724.7
BGH037	582554	9884785	732	105	-30	154.0	157.0	3.81	3.00	582,680	9,884,741	647.5
						194.6	197.6	1.54	2.95	582,712	9,884,730	626.0
						208.0	211.2	1.29	3.23	582,723	9,884,726	619.3
						216.3	220.2	2.79	3.90	582,730	9,884,723	615.1
						222.4	226.7	1.77	4.30	582,735	9,884,721	612.1
BGH038	582544	9884822	732	75	-30	151.7	154.6	5.22	2.90	582,677	9,884,851	654.3
						218.3	223.7	3.38	5.35	582,735	9,884,861	621.4
						226.7	231.5	1.95	4.80	582,743	9,884,862	617.6



BGH039	582554	9884785	732	100	-22	112.1	113.0	2.12	0.92	582,665	9,884,755	687.6
						116.3	121.0	3.33	4.65	582,661	9,884,753	686.1
						145.0	166.0	2.20	21.00	582,696	9,884,744	674.2
						174.5	176.0	0.95	1.50	582,713	9,884,739	668.9
BGH040	582544	9884822	732	60	-30	232.0	233.0	0.95	1.00	582,725	9,884,922	618.2
						273.7	277.1	3.79	3.35	582,761	9,884,937	600.0
BGH041	582500	9884847	732	55	-25	340.0	344.5	3.03	4.50	582,807	9,885,002	599.5
BGH042	582544	9884822	732	60	-35	277.4	280.0	1.93	2.65	582,751	9,884,922	569.4
						308.5	312.0	0.62	3.50	582,776	9,884,932	552.6
						313.0	315.6	1.52	2.55	582,779	9,884,933	550.5
BGH043	582544	9884822	732	100	-10	102.5	104.2	2.69	1.65	582,644	9,884,808	709.0
						123.0	124.0	1.06	1.00	582,663	9,884,805	704.8
						163.6	167.0	2.82	3.36	582,704	9,884,798	696.7
BGH044	582500	9884847	710	70	-35	330.0	334.1	1.31	4.13	582,764	9,884,941	533.4
BGH045	582544	9884822	732	100	-20	120.7	121.8	31.55	1.10	582,656	9,884,806	687.4
						156.0	159.4	0.56	3.40	582,689	9,884,799	674.7
						176.7	183.6	3.24	6.92	582,708	9,884,795	668.1
BGH046	582544	9884822	732	100	-30	195.2	206.0	2.85	10.82	582,712	9,884,795	630.5
						212.5	215.2	1.90	2.65	582,723	9,884,793	623.7
						218.0	220.6	7.16	2.60	582,728	9,884,792	620.8
						225.0	226.0	4.36	1.00	582,733	9,884,791	617.7
BGH047	582565	9884535	718	60	0	121.6	124.6	0.91	2.99	582,653	9,884,879	739.2
						147.1	148.1	1.28	1.00	582,675	9,884,889	741.1
BGH048	582567	9884509	727	90	0	140.8	143.1	0.90	2.30	582,708	9,884,496	727.7
						146.5	148.0	0.74	1.47	582,713	9,884,495	728.0
BGH049	582565	9884535	718	65	-15	145.4	147.4	4.27	2.00	582,689	9,884,599	674.5
BGH050	582567	9884509	727	105	-5	160.0	161.4	1.06	1.38	582,722	9,884,469	711.7
BGH051	582565	9884535	718	40	0	134.8	137.0	2.23	2.20	582,662	9,884,630	712.3
						151.0	156.3	1.20	5.30	582,675	9,884,642	711.4
						164.2	169.5	3.95	5.27	582,685	9,884,651	710.8
						171.3	172.6	4.08	1.30	582,688	9,884,655	710.6
BGH052	582567	9884509	727	120	0	205.9	207.1	1.86	1.20	582,732	9,884,385	722.9

BGH053	582565	9884535	718	40	-15	173.7	176.9	9.58	3.20	582,685	9,884,653	669.2
						178.6	181.4	4.07	2.88	582,688	9,884,656	667.9
						192.4	196.9	3.28	4.45	582,698	9,884,666	664.0
						198.9	206.8	2.45	7.91	582,704	9,884,671	661.8
						207.5	209.5	5.04	1.97	582,708	9,884,675	660.3
						214.7	216.0	2.32	1.35	582,713	9,884,680	658.6
BGH054	No significant intercepts											
BGH055	582565	9884535	718	80	-15	145.0	146.0	0.62	1.00	582,705	9,884,549	682.7
BGH056	No significant intercepts											
BGH057	No significant intercepts											
BGH058	582565	9884510	727	95	-5	153.4	155.6	1.98	2.25	582,717	9,884,501	703.9
BGH059	582567	9884536	718	95	0	165.0	166.0	3.63	1.00	582,732	9,884,528	714.4
BGH060	No significant intercepts											
BGH061	582567	9884536	727	130	-10	157.6	159.2	1.22	1.62	582,719	9,884,525	677.7
BGH062	582567	9884537	718	95	-15	154.0	156.0	2.18	2.00	582,695	9,884,589	650.2
BGH063	582782	9884646	829	270	-70	186.3	194.4	0.82	8.12	582,719	9,884,661	650.5
						197.4	202.5	1.12	5.03	582,715	9,884,661	641.8
						205.0	209.1	0.83	4.05	582,712	9,884,661	635.4
						211.1	218.9	2.06	7.77	582,709	9,884,661	628.3
						220.4	222.6	0.86	2.15	582,706	9,884,661	622.5
						231.0	233.0	0.87	2.00	582,701	9,884,661	613.0
BGH064	582888	9884976	839	270	-50	220.8	222.6	0.63	1.80	582,746	9,884,976	668.9
BGH065	582913	9885057	819	270	-60	271.0	276.0	2.93	4.95	582,769	9,885,057	586.1
						291.6	292.6	1.70	1.00	582,759	9,885,057	570.9
BGH066	582888	9884976	839	270	-60	276.0	278.6	8.49	2.59	582,754	9,884,965	596.1
						300.0	301.0	1.78	1.00	582,742	9,884,965	576.6
BGH067	582913	9885057	819	270	-67	295.8	300.5	3.21	4.72	582,789	9,885,065	548.1
						303.0	304.6	1.56	1.62	582,786	9,885,065	543.1
						337.0	338.0	0.55	1.00	582,769	9,885,068	514.3
BGH068	582913	9885057	819	270	-50	247.0	248.2	2.10	1.20	582,749	9,885,051	633.1
						251.8	255.1	1.75	3.30	582,745	9,885,051	628.8
BGH069	582888	9884976	839	270	-70	321.8	324.7	3.84	2.93	582,779	9,884,962	534.7
BGH070	582913	9885057	819	270	-73	331.0	336.4	3.00	5.35	582,802	9,885,040	505.2
BGH071	No significant intercepts											
BGH072	582852	9884845	831	270	-67	274.6	279.7	2.70	5.10	582,749	9,884,847	574.0
						290.4	294.8	3.61	4.40	582,742	9,884,847	560.0

BGH073	582731	9884691	838	280	-60	121.0	123.0	0.72	2.00	582,671	9,884,702	731.9
BGH074	582944	9885130	798	270	-67	278.9	283.9	2.85	5.03	582,810	9,885,137	551.2
						285.5	289.1	1.60	3.61	582,807	9,885,138	546.3
						294.5	297.3	7.14	2.79	582,802	9,885,139	539.1
						299.7	303.3	0.53	3.69	582,799	9,885,139	534.5
BGH075	582731	9884691	838	270	-70	115.4	116.7	6.76	1.25	582,690	9,884,690	729.4
						119.5	120.8	15.22	1.30	582,688	9,884,690	725.7
						125.1	129.8	3.56	4.71	582,684	9,884,690	719.3
						162.6	164.6	8.94	2.08	582,667	9,884,689	687.8
BGH076	582752	9884801	849	300	-40	108.0	109.0	0.84	1.00	582,682	9,884,844	779.6
						118.8	119.5	3.71	0.65	582,675	9,884,848	772.7
						128.2	131.0	2.82	2.85	582,668	9,884,852	765.8
						136.7	137.0	0.97	0.30	582,663	9,884,855	761.0
BGH077	582944	9885130	798	270	-72	316.8	321.2	2.57	4.36	582,830	9,885,130	501.7
						323.0	328.4	2.56	5.36	582,827	9,885,130	495.8
						329.1	330.1	0.52	1.07	582,825	9,885,130	492.4
						335.3	337.4	9.63	2.11	582,822	9,885,130	486.5
						339.8	340.1	7.07	0.30	582,820	9,885,131	483.4
BGH078	582752	9884801	849	280	-40	102.0	106.0	1.88	4.00	582,674	9,884,816	782.6
						108.0	109.0	0.62	1.00	582,671	9,884,817	779.7
						115.0	117.2	0.80	2.15	582,665	9,884,818	774.8
BGH079	582852	9884845	831	270	-73	290.2	294.4	1.00	4.25	582,765	9,884,842	552.6
						296.3	302.3	9.46	6.00	582,763	9,884,841	546.1
						304.8	305.7	18.75	0.89	582,761	9,884,841	540.5
						312.0	313.0	1.08	1.00	582,758	9,884,841	533.8
						316.9	321.6	4.65	4.73	582,755	9,884,840	527.5
						322.6	328.0	5.41	5.43	582,753	9,884,840	522.0
						329.0	329.5	1.59	0.53	582,751	9,884,840	518.4
						340.7	341.4	4.29	0.74	582,747	9,884,839	507.6
BGH080	582944	9885130	798	270	-75	339.9	343.6	1.05	3.70	582,853	9,885,141	469.2
						345.0	346.6	4.11	1.55	582,851	9,885,141	465.5
						360.7	361.0	11.95	0.30	582,846	9,885,143	451.5
BGH081a	583022	9885299	776	270	-50	269.0	274.6	1.99	5.56	582,838	9,885,306	578.6
						275.6	275.9	0.64	0.30	582,835	9,885,307	576.0

BGH082a	583013	9885209	752	270	-50	263.8	266.3	3.43	2.47	582,836	9,885,222	556.0
						268.4	269.2	3.32	0.80	582,833	9,885,223	553.5
						277.0	277.3	15.65	0.30	582,827	9,885,224	547.9
BGH083	No significant intercepts											
BGH084	583023	9885299	776	270	-57	279.0	280.9	6.25	1.95	582,857	9,885,307	552.8
						283.1	286.3	1.28	3.25	582,854	9,885,307	549.2
BGH085	583023	9885299	776	270	-65	294.7	298.4	0.83	3.70	582,890	9,885,304	512.9
BGH086	583013	9885208	752	270	-57	275.4	280.8	3.07	5.43	582,847	9,885,214	530.1
						286.1	286.5	18.90	0.46	582,841	9,885,215	524.4
BGH087	583023	9885299	777	270	-75	263.8	264.3	0.59	0.53	582,946	9,885,305	525.0
BGH088	583012	9885208	752	270	-67	297.7	299.5	11.93	1.72	582,876	9,885,221	487.3
						301.0	301.8	6.79	0.77	582,875	9,885,221	485.0
						303.7	304.0	2.47	0.30	582,873	9,885,222	483.0
						305.7	306.0	1.66	0.30	582,872	9,885,222	481.4
						307.2	307.6	6.66	0.35	582,871	9,885,223	480.2
						308.3	308.9	12.15	0.67	582,871	9,885,223	479.2
						309.5	309.8	1.98	0.31	582,870	9,885,223	478.3
						310.4	310.7	17.65	0.33	582,869	9,885,223	477.6
						313.0	313.9	2.82	0.85	582,868	9,885,224	475.3
						324.5	324.9	5.77	0.38	582,861	9,885,226	466.3
						325.4	325.8	10.40	0.40	582,861	9,885,226	465.6
BGH089	582951	9885352	779	270	-50	198.0	199.0	4.58	1.00	582,822	9,885,357	628.9
						202.7	203.5	12.25	0.80	582,819	9,885,357	625.5
						205.1	205.5	7.96	0.44	582,818	9,885,357	623.7
						217.5	218.5	31.90	1.00	582,809	9,885,358	614.1
BGH090	582951	9885423	769	270	-50	168.8	170.5	2.45	1.68	582,843	9,885,424	638.3
						170.9	171.5	12.55	0.60	582,842	9,885,424	637.1
						173.0	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	1.40	582,850	9,885,358	581.3
BGH092	583021	9885430	752	270	-55	193.5	193.9	17.15	0.38	582,913	9,885,431	591.9
BGH093	583013	9885345	759	270	-70	224.3	224.8	4.06	0.50	582,932	9,885,341	549.9
						225.8	226.7	1.81	0.92	582,931	9,885,341	548.3
						227.7	228.3	2.75	0.60	582,930	9,885,341	546.7
BGH094	582990	9885055	810	270	-65	381.0	384.8	3.84	3.81	582,808	9,885,054	473.5
						389.7	390.3	5.95	0.51	582,805	9,885,054	467.4
						408.5	411.0	5.82	2.55	582,795	9,885,054	450.4

[illegible]

BGH107	582991	9884982	814	270	-75	496.9	502.2	8.21	5.21	582,826	9,884,984	343.4
BGH108	582963	9884905	828	270	-62	377.2	377.5	11.95	0.31	582,786	9,884,895	495.2
						381.5	381.8	7.40	0.30	582,784	9,884,895	491.5
						385.3	387.5	4.50	2.20	582,781	9,884,895	487.6
						391.0	395.0	2.09	3.96	582,777	9,884,894	482.1
						401.0	402.0	1.44	1.00	582,773	9,884,894	475.1
						405.3	409.4	2.40	4.05	582,769	9,884,893	470.3
BGH109	No significant intercepts											
BGH110	582963	9884905	828	270	-73	459.2	467.4	1.00	8.14	582,799	9,884,879	397.0
						468.1	476.7	10.35	8.58	582,795	9,884,878	389.2
						485.5	486.2	10.30	0.70	582,788	9,884,876	377.8
						489.8	490.9	2.01	1.12	582,786	9,884,875	374.0
BGH111	582959	9884759	831	270	-55	334.4	341.3	4.24	6.89	582,768	9,884,745	553.1
						342.4	350.0	4.92	7.65	582,762	9,884,745	547.0
						352.5	357.3	0.67	4.75	582,756	9,884,744	540.6
						358.3	361.3	0.63	3.03	582,753	9,884,744	537.0
						362.7	367.2	0.58	4.50	582,749	9,884,744	533.3
						368.0	370.2	3.15	2.16	582,746	9,884,743	530.4
BGH112	582870	9885354	790	270	-55	130.3	130.6	2.32	0.30	582,797	9,885,360	681.8
						135.3	135.7	5.69	0.44	582,794	9,885,360	677.7
BGH113	582910	9885205	780	270	-62	213.0	216.6	0.94	3.60	582,810	9,885,204	590.1
						229.0	230.0	4.49	1.00	582,803	9,885,204	577.3
BGH114	582870	9885354	790	270	-63	138.5	138.9	4.40	0.36	582,807	9,885,358	666.2
						143.3	143.6	6.84	0.30	582,805	9,885,358	662.1
						147.0	147.6	3.83	0.65	582,803	9,885,358	658.8
						151.5	151.8	0.82	0.30	582,801	9,885,358	655.0
BGH115	No significant intercepts											
BGH116	582886	9884671	818	270	-58	285.4	292.0	3.51	6.63	582,727	9,884,661	577.7
						292.5	294.0	1.04	1.54	582,724	9,884,660	574.2
BGH117	No significant intercepts											
BGH118	582842	9885430	769	270	-60	95.0	95.9	2.05	0.90	582,795	9,885,430	686.6
						100.6	100.9	0.95	0.30	582,792	9,885,430	682.1
BGH119	582842	9885430	769	270	-75	103.0	105.0	2.33	2.00	582,814	9,885,431	669.5
BGH120	582886	9884671	818	270	-70	323.0	327.4	0.98	4.41	582,746	9,884,662	528.2
						330.3	334.4	1.92	4.14	582,741	9,884,662	522.6
BGH121	No significant intercepts											

						153.4	157.5	1.50	4.09	582,786	9,885,123	640.6
BGH122	582853	9885112	780	275	-65	158.1	161.9	1.26	3.81	582,784	9,885,123	636.5
						162.8	165.0	1.66	2.25	582,783	9,885,123	633.1
BGH123	582960	9884759	831	270	-70	432.0	437.1	1.96	5.05	582,789	9,884,746	432.8
						438.5	438.8	1.20	0.30	582,787	9,884,746	429.3
BGH124	No significant intercepts											
MND001	No significant intercepts											
MND002	No significant intercepts											
MND003	No significant intercepts											
MND004	583392	9886283	682	270	-52	524.8	525.1	0.67	0.30	582,994	9,886,250	347.0
MND005	No significant intercepts											
MND006	No significant intercepts											
MND007	583100	9886210	726	270	-75	402.0	402.5	0.58	0.45	582,987	9,886,211	340.5
MND009	582881	9886200	752	270	-65	96.4	96.8	2.28	0.40	582,842	9,886,200	667.3
MND010	No significant intercepts											
MND011	583103	9886211	726	270	-83	419.3	428.0	21.85	8.74	583,021	9,886,194	312.7
						430.6	438.9	17.52	8.30	583,018	9,886,193	302.0
MND012	582950	9886140	765	270	-60	64.7	65.4	12.20	0.65	582,916	9,886,142	699.8
MND013	582945	9886142	759	270	-50	142.7	143.0	10.05	0.28	582,852	9,886,146	651.2
						177.0	178.0	1.02	1.00	582,829	9,886,146	625.5
MND014	No significant intercepts											
MND015a	582950	9886140	755	270	-70	172.3	172.7	6.34	0.36	582,887	9,886,144	594.8
MND016	583063	9886162	741	270	-50	249.4	253.0	0.62	3.58	582,895	9,886,161	554.1
MND017	583195	9886171	744	270	-50	385.0	386.0	1.02	1.00	582,947	9,886,165	450.1
MND018	583063	9886162	740	270	-60	284.7	285.0	11.70	0.30	582,912	9,886,160	498.4
MND019	583196	9886171	744	270	-64	432.2	444.0	25.94	11.76	582,992	9,886,162	357.3
						445.0	445.6	15.30	0.55	582,988	9,886,162	351.2
MND020	583196	9886171	744	270	-72	484.9	492.3	7.08	7.36	583,024	9,886,160	288.3
						495.0	499.3	7.50	4.25	583,020	9,886,159	280.6
MND021	583195	9886171	744	270	-57	425.3	425.6	10.50	0.30	582,962	9,886,178	388.9
MND022a	583244	9886211	741	270	-73	547.0	558.3	7.62	11.30	583,060	9,886,205	220.5
						559.0	565.9	16.37	6.85	583,056	9,886,205	211.4
						567.7	569.5	1.31	1.83	583,054	9,886,205	205.7
MND023	583204	9886236	738	270	-75	511.6	524.7	21.27	13.10	583,038	9,886,208	249.3
						527.0	528.4	2.35	1.42	583,033	9,886,207	240.8
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.



<p>Quality of assay data and laboratory tests</p>	<p>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.</p> <p>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.</p> <p>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%.</p> <p>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 &amp; Ag.</p> <p>External quality assurance of the laboratory assays for the Alphamin samples was monitored. Blank samples (299), certified reference materials (434) and duplicate samples (357) were inserted with the field samples accounting for approximately 11% of the total sample set.</p> <p>The QAQC measures used by Alphamin revealed the following:</p> <ul style="list-style-type: none"> <li>• Blank samples indicated that no significant contamination occurred overall. Low levels of contamination (mostly &lt;200 ppm Sn) mostly occurred, however 12 values between 229 ppm and 1,285 ppm were returned. Given the high grades at Bisie, the levels of contamination are not significant.</li> <li>• 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 values. 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 ±2% of the expected value with an overall low 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 5% relative to the CRM expected value. Overall, the CRMs results indicate a slight negative bias for the ALS assays.</li> <li>• Coarse duplicates show mostly excellent correlation, indicating minimal error in the process and a high degree of repeatability.</li> </ul>
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Verification of sampling and assaying	<p>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.</p> <p>105 pulp duplicates were sent to SGS (Johannesburg) in November 2021 for confirmation assaying.</p> <ul style="list-style-type: none"> <li>The pulp duplicates showed acceptable correlation with the ALS assays at both high- and low-grade ranges with an overall bias of near zero. <ul style="list-style-type: none"> <li>Average bias for grade ranges &gt; 1% is less than 1%.</li> <li>Tendency for ALS to be higher (~5%) for the grade ranges less than 1%.</li> </ul> </li> <li>Inter-lab precision (after removal of &lt;0.10%) is 85% within 10% error and 95% within 20% error</li> </ul>
Location of data points	<p>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).</p>
Tonnage factors (in situ bulk densities)	<p>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.</p>
Data density and distribution	<p>A total of 124 holes were drilled in Mpama South. An additional 6 holes previously drilled in the Wedge area of Mpama North have been included in the Mineral Resource. 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.</p>
Database integrity	<p>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.</p>
Dimensions	<p>The mineralisation consists of seven zones, with a total extent of 950 m along strike. MZ1 has a strike length of 950 m and 500 m down-dip and MZ2 has a strike length of 650 m and 500 m down-dip. Together, these two zones account 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.</p>

Geological interpretation	<p>The mineralised intersections are clearly discernible in drill core. The Mineral Resource is interpreted to occur as irregular veins and disseminations of cassiterite that when combined form tabular mineralised zones, dipping 65-70° to the east. The mineralised zones are hosted in chlorite schist that is the result of intense hydrothermal alteration associated with a fracture system.</p> <p>MZ1 is the largest zone by volume of the Mineral Resource, with an extent of 950 m and an average thickness of 4.1 m. MZ2 is the second largest zone, with a strike length of 650 m and an average thickness of 3.4 m. However, the thicknesses of these two zones vary from as little as 1 m, up to 13 m thick.</p> <p>Three smaller zones (MZ3 to MZ5) occur in the footwall of the main zones of mineralisation which progressively become narrower, moving away from the main zones. 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.</p> <p>A 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.</p> <p>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. MZ6 is not part of the Mineral Resource.</p> <p>A three-dimensional wireframe model was created for the seven zones of mineralisation based on a grade threshold of 0.40% Sn. 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.</p>
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	<p>Statistics for the seven estimation domains show distributions that are positively skewed with coefficients of variation (CV) ranging from 1.3 to 1.96, the only exception being domain MZ7 which shows lower variability due to very few composites resulting in a CV of 0.79.</p> <p>The two main zones (MZ1 and MZ2) have similar average tin grades (2.22% and 2.11% respectively). The smaller, footwall zones (MZ3 to MZ5) are higher in tin grade with averages ranging from 3% to 4.41% while MZ6 and MZ7 are lower in tin grade, with an average of 0.63% and 1.07% respectively.</p> <p>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.</p>
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	<p>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.</p> <p>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.</p> <p>Dynamic Anisotropy was used to orientate the search volumes to the strike and dip of the individual mineralised zones.</p>
Resource classification	<p>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.</p>
Mining cuts and cut-off grade assumptions.	<p>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.</p> <p>A 1% cut-off grade was applied based on the Mpama North costs and prevailing tin price.</p> <p>Isolated blocks above cut-off grade in dominantly low-grade areas of the model were not included in the Mineral Resource</p>
Metallurgical factors or assumptions	<p>The tin mineralisation occurs as cassiterite, an oxide of tin (<math>\text{SnO}_2</math>). 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.</p>
Legal aspects and tenure	<p>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.</p>
Audits, reviews and site inspection	<p>The following review work was completed by MSA:</p> <ul style="list-style-type: none"> <li>• Inspection of approximately 20% of mineralised core intersections used in the Maiden Mineral Resource estimate. <ul style="list-style-type: none"> <li>• Database checks.</li> </ul> </li> <li>• Inspection of Mpama South drill sites in August 2021. <ul style="list-style-type: none"> <li>• On-site review of the exploration processes.</li> <li>• Laboratory inspections.</li> </ul> </li> </ul>

<sup>1</sup> Based on data obtained from International Tin Association Tin Industry Review Update 2021

<sup>2</sup> 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.

<sup>3</sup> 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.