



14 December 2020

ASX ANNOUNCEMENT

Theta Gold targeting a substantial increase in its global Mining Reserves by Q1 2021 with the inclusion of near surface underground ore

Highlights

- **Pre-feasibility Study (PFS) for the underground near surface mines, (Beta Mine/Frankfort) by Q1 2021**
- **Declare an underground Maiden Mining Reserve by Q1 2021**
- **PFS to focus on the:**
 - **Maximise recovered Grade with modern mining methods,**
 - **Maximise Gold Recovery with modern gold processing,**
 - **Maximise Production Rates with modern mine planning,**
- **Work in progress at Underground Mines**
 - **Engineering Drilling-**
 - **Bulk Metallurgical Sampling**
 - **Mining Method Review**
 - **Mine planning and scheduling**

Theta Gold Mines Limited ("Theta Gold" or "Company") (ASX: TGM | OTCQB: TGMGF) is pleased to provide an update on its Five Year Plan first announced in April 2020. In parallel with the Theta Starter-pits development, the Company has assessed how to accelerate the five-year >160,000oz per annum production plan by bringing forward the development of the underground Beta mines for early production.

The Board of Theta Gold has approved a Pre-Feasibility Study (PFS) to convert more of Theta Gold's Measured and Indicated (M&I) Mineral Resources into a Mining Reserve. The PFS, to be completed by Q1 2021, will produce an underground mining reserve for the Beta/Frankfort Mines. This will be the company's first declared underground mining reserve, to be added to Theta Gold's existing 205,000 ounces of open-pit mining reserves from MR83. MR83 is already approved for underground mining.

The cost for the PFS is minimized by targeting only existing M&I Mineral Resources (Appendix A) at Beta and Frankfort Mines (575koz M&I). Led by the new CEO (Africa), Mitford Mundell, a detailed survey has been completed on old workings where the team identified easily accessible gold faces with easy access to sampling. The PFS will build on the scoping studies

completed in 2017 for the Beta Mines. The company has 150 years of exploration and production data to assist with fast tracking the PFS.



Underground Engineering Drill Core collected in October 2020



Underground sampling program

Work in progress at underground mines includes engineering drilling, mining method review, mine survey work and bulk metallurgical sampling. Preliminary metallurgical results were release 18 November 2020.

The first stage of the PFS is to match modern mechanized mining methods to the narrow, flat lying reef systems. Historically these reefs were extracted by means of conventional manual mining methods, which were associated with high labor intensity, low productivity, high dilution, poor mine planning and gold losses. Modern methods, together with a favorable gold price, should enable significant lowering of cut-off grades and therefore much larger portions of the orebodies become feasible to extract.

Theta Gold Chairman Bill Guy commented: *“Mining Reserves in terms of transactional valuation are three to five times higher than Mineral Resources per gold ounce. Theta has a very large resource base and we are now better aligning resource to reserve conversions.*

The Company has several granted Mining Rights with various approvals for underground mining already in place, including MR83 which hosts the Beta Mine which is one such operation already approved for underground mining.

The initial underground PFS running alongside the open pit development significantly fast-tracks our strategy of delivering 160,000 ounces of gold production per year. We look forward to delivering the PFS early in the new year as well as delivering other key value-adding milestones which advance the Company through to first production.”

This announcement was approved for release by Mr Bill Guy, Chairman.

For more information please visit www.thetagoldmines.com or contact:

Bill Guy, Chairman

Theta Gold Mines Limited

T: +61 2 8046 7584

billg@thetagoldmines.com

Investor Relations:

Australia – Ben Jarvis, Six Degrees Investor Relations: +61 (0) 431 271 538

United States - Michael Porter, Porter, LeVay & Rose Inc: +1 212 564 4700,

theta@plinvest.com



<https://twitter.com/ThetaGoldMines>



<https://www.linkedin.com/company/thetagoldmines/>

Competent Person Statement

The information in this report relating to Mineral Resources is based on, and fairly reflects, the information and supporting documentation compiled by Mr Uwe Engelmann (BSc (Zoo. & Bot.), BSc Hons (Geol.), Pr.Sci.Nat. No. 400058/08, MGSSA), a director of Minxcon (Pty) Ltd and a member of the South African Council for Natural Scientific Professions.

The original report titled “Theta Gold increases Mineral Resource to over 6Moz” was dated 16 May 2019 and was released to the Australian Securities Exchange (ASX) on that date. The Company confirms that –

- it is not aware of any new information or data that materially affects the information included in the ASX announcement; and
- all material assumptions and technical parameters underpinning the estimates in the ASX announcement continue to apply and have not materially changed.

ABOUT THETA GOLD MINES LIMITED

Theta Gold Mines Limited (ASX: TGM| OTCQB: TGMGF) is a gold development company that holds a range of prospective gold assets in a world-renowned South African gold mining region. These assets include several surface and near-surface high-grade gold projects which provide cost advantages relative to other gold producers in the region.

Theta Gold’s core project is located next to the historical gold mining town of Pilgrim’s Rest, in Mpumalanga Province, some 370km northeast of Johannesburg by road or 95km north of Nelspruit (Capital City of Mpumalanga Province). Following small scale production from 2011 – 2015, the Company is currently focussing on the construction of a new gold processing plant within its approved footprint at the TGME plant, and for the processing of the Theta Open Pit oxide gold ore. Nearby surface and underground mines and prospects are expected to be further evaluated in the future.

The Company aims to build a solid production platform to over 160Kozpa based primarily around shallow, open-pit or adit-entry shallow underground hard rock mining sources. Theta Gold has access to over 43 historical mines and prospect areas that can be accessed and explored, with over 6.7Moz of historical production recorded.

Theta Gold holds 100% issued capital of its South African subsidiary, Stonewall Mining (Pty) Ltd (“Stonewall”). Stonewall holds a 74% shareholding in both Transvaal Gold Mining Estates Limited (“TGME”) and Sabie Mines (Pty) Ltd (“Sabie Mines”). The balance of shareholding is held by Black Economic Empowerment (“BEE”) entities. The South African Mining Charter requires a minimum of 26% meaningful economic participation by the historically disadvantaged South Africans (“HDSAs”). The BEE shareholding in TGME and Sabie Mines is comprised of a combination of local community trusts, an employee trust and a strategic entrepreneurial partner.

DISCLAIMER

This announcement has been prepared by and issued by Theta Gold Mines Limited to assist in informing interested parties about the Company and should not be considered as an offer or invitation to subscribe for or purchase any securities in the Company or as an inducement to make an offer or invitation with respect to those securities. No agreement to subscribe for securities in the Company will be entered into on the basis of this announcement.

This announcement may contain forward looking statements. Whilst Theta Gold has no reason to believe that any such statements and projections are either false, misleading or incorrect, it does not warrant or guarantee such statements. Nothing contained in this announcement constitutes investment, legal, tax or other advice. This overview of Theta Gold does not purport to be all inclusive or to contain all information which its recipients may require in order to make an informed assessment of the Company's prospects. Before making an investment decision, you should consult your professional adviser, and perform your own analysis prior to making any investment decision. To the maximum extent permitted by law, the Company makes no representation and gives no assurance, guarantee or warranty, express or implied, as to, and take no responsibility and assume no liability for, the authenticity, validity, accuracy, suitability or completeness of, or any errors in or omissions, from any information, statement or opinion contained in this announcement. This announcement contains information, ideas and analysis which are proprietary to Theta Gold.

APPENDIX A
Table 1: Mineral Resources

Mineral Resources for Underground Operations as at 1 May 2019

Resource Classification	Mine	Reef	Reef Grade	Stope Grade	Reef Width	Stope width	Content	Reef Tonnes	Stope Tonnes	Au Content	
			g/t	g/t	cm	cm	cmgt	Mt	Mt	Kg	koz
Measured	Frankfort	Bevetts	7.13	5.37	73	103	520	0.069	0.091	489	15.7
Total Measured			7.13	5.37	73	103	520	0.069	0.091	489	15.7
Indicated	Frankfort	Bevetts	7.86	5.13	58	96	452	0.243	0.373	1,912	61.5
	CDM	Rho	13.19	3.80	23	90	307	0.258	0.895	3,401	109.4
	Beta	Beta	21.66	6.58	23	90	499	0.716	2.357	15,506	498.5
	Rietfontein	Rietfontein	14.57	8.20	52	92	755	0.517	0.919	7,534	242.2
	Vaalhoek	Vaalhoek	13.90	6.34	36	90	499	0.064	0.140	887	28.5
	Olifantsgeraamte	Olifantsgeraamte	16.97	4.62	25	90	416	0.026	0.091	422	13.6
Total Indicated			16.26	6.21	36	91	591	1.824	4.774	29,661	953.7
Total Measured & Indicated			15.93	6.20	38	91	600	1.893	4.865	30,150	969.4

Resource Classification	UG Mine	Reef	Reef Grade	Stope Grade	Reef Width	Stope width	Content	Reef Tonnes	Stope Tonnes	Au Content	
			g/t	g/t	cm	cm	cmgt	Mt	Mt	Kg	koz
Inferred	Frankfort	Bevetts	7.41	4.27	48	93	356	0.343	0.596	2,543	81.8
	CDM	Rho	10.06	3.02	24	90	244	0.544	1.811	5,472	175.9
	Beta	Beta	16.51	5.43	25	90	414	1.107	3.367	18,285	587.9
	Rietfontein	Rietfontein	14.06	8.52	57	94	803	1.190	1.962	16,721	537.6
	Olifantsgeraamte	Olifantsgeraamte	18.33	4.68	23	90	422	0.059	0.248	1,162	37.3
	Vaalhoek	Vaalhoek	16.28	4.77	22	90	361	0.873	2.980	14,209	456.8
	Vaalhoek	Thelma Leaders	12.18	9.47	96	123	1166	0.023	0.030	284	9.1
	Glynns Lydenburg	Glynns	15.87	5.19	25	90	397	3.218	9.833	51,078	1,642.2
	Ponieskrantz *	Portuguese	13.26	3.99	22	90	287	0.064	0.213	849	27.3
	Frankfort Theta*	Theta	7.22	3.24	34	90	244	0.099	0.220	714	23.0
	Nestor*	Sandstone	5.54	2.92	41	90	225	0.101	0.193	562	18.1
Total Inferred			14.68	5.22	31	91	458	7.622	21.452	111,880	3,597.0

Note: * Manual Mineral Resources

Mineral Resources for Open Pit Operations as at 1 May 2019

Resource Classification	Open Pit Mine	Reef	Reef Grade	Reef Width	Content	Reef Tonnes	Au Content	
			g/t	cm	cmgt	Mt	Kg	koz
Indicated	Hermansburg	Elluvial	1.79	0	0	0.505	905	29.1
	DG1	Elluvial	1.37	0	0	0.159	217	7.0
	DG2	Elluvial	0.76	0	0	1.174	892	28.7
	Vaalhoek	Vaalhoek	17.25	33	574	0.111	1920	61.7
	Theta & Browns Hill	Shale	1.02	200	204	0.439	402	12.9
	Theta & Browns Hill	Bevetts	1.10	221	244	0.891	886	28.5
	Theta & Browns Hill	Upper Theta	2.41	100	241	0.724	1568	50.4
	Theta & Browns Hill	Lower Theta	3.70	100	370	0.888	2956	95.0
	Theta & Browns Hill	Beta	2.49	100	249	0.383	859	27.6
	Iota	Bevetts	2.89	114	330	0.105	303	9.7
	Iota	Upper Rho	2.43	393	956	0.808	1965	63.2
	Iota	Lower Rho	2.51	550	1381	0.815	2047	65.8
	Iota	Upper Theta	1.08	114	123	0.158	171	5.5
Total Indicated			2.11	179	378	7.161	15,091	485.2

Resource Classification	Open Pit Mine	Reef	Reef Grade	Reef Width	Content	Reef Tonnes	Au Content	
			g/t	cm	cmgt	Mt	Kg	koz
Inferred	Hermansburg	Elluvial	0.88	0	0	0.110	97	3.1
	DG1	Elluvial	2.95	0	0	0.293	864	27.8
	DG5	Elluvial	0.76	0	0	0.101	77	2.5
	Vaalhoek	Vaalhoek	20.32	43	880	0.213	4,319	138.9
	Vaalhoek	Thelma Leaders	14.25	97	1,388	0.293	4,172	134.1
	Theta & Browns Hill	Shale	1.11	216	240	0.703	666	21.4
	Theta & Browns Hill	Bevetts	1.07	213	227	0.648	589	19.0
	Theta & Browns Hill	Upper Theta	1.86	100	186	1.071	1692	54.4
	Theta & Browns Hill	Lower Theta	8.11	100	811	1.643	11329	364.3
	Theta & Browns Hill	Beta	2.23	100	223	0.748	1417	45.6
	Iota	Upper Rho	5.13	106	544	0.099	507	16.3
Total Inferred			4.35	115	502	5.922	25,730	827.3

Mineral Resources for Tailings Dams as at 1 May 2019

Resource Classification	Surface Operation	Reef	Tonnage	Gold Grade	Gold Content	
			Mt	g/t	Kg	koz
Indicated	Glynn's Lydenburg	Tailings	1.211	0.80	972	31.3
	Blyde 1	Tailings	0.590	0.73	434	14.0
	Blyde 2	Tailings	0.280	0.83	234	7.5
	Blyde 3	Tailings	0.316	0.87	275	8.8
	Blyde 4	Tailings	0.164	0.72	119	3.8
	Blyde 5	Tailings	0.022	0.61	14	0.4
	TGME Plant	Tailings	2.661	0.87	2,325	74.8
Total Indicated			5.244	0.83	4,373	140.6

Resource Classification	Surface Operation	Reef	Tonnage	Gold Grade	Gold Content	
			Mt	g/t	Kg	koz
Inferred	Blyde 3a	Tailings	0.023	0.57	13	0.4
Total Inferred			0.023	0.57	13	0.4

Mineral Resources for Rock Dumps as at 1 May 2019

Mineral Resource Category	Surface Operation	Reef	Tonnage	Gold Grade	Gold Content	
			Mt	g/t	Kg	koz
Inferred	Vaalhoek	Rock Dump	0.121	1.64	199	6.4
Total Inferred			0.121	1.64	199	6.4

Notes:

- Columns may not add up due to rounding.
- Gold price used for the cut-off calculations is USD1,500/oz.
- UG Mineral Resources are reported at a cut-off of 160 cm.g/t, open pit at 0.5 g/t and 0.35 g/t, tailings and rock dumps at 0.35 g/t.
- Fault losses of 5% for Measured and Indicated, 10% for Inferred Mineral Resources.
- Mineral Resources are stated as inclusive of Ore Reserves.
- Mineral Resources are reported as total Mineral Resources and are not attributed.

Table 2: Theta Project Ore Reserves for MR83 only, 1 May 2019

Mineral Resource Category in LoM Plan	Pit	Grade	Reef Tonnes	Au Content	
		g/t	kt	kg	oz
Probable	Browns Hill	3.24	564	1,826	58,699
Probable	Iota	2.54	1,253	3,189	102,513
Probable	Theta Hill	2.76	493	1,362	43,798
Total		2.76	2,310	6,377	205,010

The Ore Reserves exclude Inferred Mineral Resources.

Notes:

- Totals in the Ore Reserve may not add-up due to rounding.
- Mineral Resources are for MR83 only and excludes MR341.
- No Inferred Mineral Resources are included in the Ore Reserve.