

KIRKLAND LAKE GOLD ANNOUNCES 10.1 MILLION OUNCE INCREASE IN MEASURED AND INDICATED MINERAL RESOURCES AT DETOUR LAKE MINE

- Measured and Indicated⁽¹⁾⁽²⁾ ("M&I") Mineral Resources increase 10,061,000 ounces or 216% from December 31, 2020 estimates to 14,718,000 ounces at June 30, 2021 (572.0 million tonnes ("MT") at average grade of 0.80 grams per tonne ("g/t"))
- M&I Mineral Resource estimates include 12,214,000 ounces⁽³⁾ (386.5MT at average grade of 0.98 g/t) with additional 2,505,000 ounces (185.5MT at average grade of 0.42 g/t) of low-grade M&I Mineral Resources⁽⁴⁾
- Inferred Mineral Resources at June 30, 2021 of 1,115,000 ounces⁽¹⁾ (48.3MT at average grade of 0.81 g/t)
- Increase in Mineral Resources expected to drive growth in Mineral Reserves from December 31, 2020 estimate of 15,775,000 ounces (596.1MT at average grade of 0.82 g/t)⁽⁵⁾⁽⁶⁾; December 31, 2021 Mineral Reserve and Mineral Resource estimates to be released in first quarter of 2022.
 - (1) Mineral Resources are reported exclusive of Mineral Reserves.
 - (2) Mineral Resources include Mineral Resources considered amenable to open-pit mining methods and are bound within a pit shell.
 - (3) Measured and Indicated Mineral Resources at 0.50 g/t cut-off grade.
 - (4) M&I Mineral Resources include Mineral Resources at grades below 0.50 g/t with a cut-off grade of 0.35 g/t.
 - (5) December 31, 2020 Mineral Reserve estimate includes 13,821,000 ounces (447.4MT at average grade of 0.96 g/t) at a 0.50 g/t cut-off grade with an additional 1,954,000 ounces of low-grade Mineral Reserves (148.7MT at average grade of 0.41 g/t) at grades below 0.50 g/t with a cut-off grade of 0.35 g/t.
 - (6) See technical report entitled "Detour Lake Operation NI 43-101 Technical Report" with an effective date of December 31, 2020 as filed on SEDAR on March 30, 2021 (the "2020 Technical Report").

Toronto, Ontario – September 2, 2021 - Kirkland Lake Gold Ltd. ("Kirkland Lake Gold" or the "Company") (TSX:KL) (NYSE:KL) (ASX:KLA) today announced the release of new Mineral Resource estimates for the Detour Lake Mine ("Detour Lake") as at June 30, 2021 ("Mid-Year 2021"). Included in the Mid-Year 2021 Mineral Resource estimates are total Measured and Indicated ("M&I") Mineral Resources, exclusive of Mineral Reserves, of 14,718,000 ounces (572.0 million tonnes ("MT") at an average grade of 0.80 grams per tonne "g/t")), an increase of 10,061,000 ounces or 216% from the previous estimate of 4,657,000 ounces (131.2MT at an average grade of 1.10 g/t) as at December 31, 2020 (See 2020 Technical Report filed on SEDAR) as well as Inferred Mineral Resources totalling 1,1155,000 ounces (48.3MT at an average grade of 0.81 g/t). The Mid-Year 2021 Mineral Resource estimates were prepared in accordance with National Instrument 43-101 – Standards of Disclosure for Mineral Projects, issued by the Canadian Securities Administrators ("NI 43-101"). The new Mineral Resource estimates are being released as a result of a material increase in M&I Mineral Resources that was identified as part of the Company's mid-year internal Mineral Resource progress update. The Company plans to release a new NI 43-101 Report to support the Mid-Year 2021 Mineral Resources for the Detour Lake Mine, to be filed within the next 45 days.

The Mid-Year 2021 Mineral Resource estimates were calculated based on the results of 365 holes for 185,000 metres of surface diamond drilling completed since the Company acquired Detour Lake on January 31, 2020. The Company is targeting approximately 100,000 metres of additional drilling by the end of 2021.

Of the 14,718,000 ounces of M&I Mineral Resources included in the Mid-Year 2021 estimates, the majority are located within the Saddle Zone, an area between the existing Main Pit and planned West Pit locations, which had previously been underexplored and had no Mineral Reserves and only limited Mineral Resources. M&I Mineral Resources within the Saddle Zone are allocated to the Main and West pits based on their proximity to the two pit locations. As outlined in the tables below, M&I Mineral Resources within the Main Pit are estimated at 7,103,000 ounces based on 205.6MT at an average grade of 1.07 g/t (0.50 g/t cut-off grade), with an additional 973,000 ounces based on 71.9MT at an average grade of 0.42 g/t of low-grade M&I Mineral Resources (0.35 g/t cut-off grade). The West Pit M&I Mineral Resource estimates include 5,096,000 ounces based on 180.4MT at an average grade of 0.88 g/t (0.50 g/t cut-off grade), with low-grade M&I Mineral Resources totalling 1,530,000 ounces based on 113.5MT at an average grade of 0.42 g/t (0.35 cut-off grade).

Tony Makuch, President and CEO of Kirkland Lake Gold, commented: "When we acquired Detour Lake, we saw many opportunities to optimize the operation and generate value, including increasing production to 800,000 ounces per year, improving all-in sustaining costs ("AISC") to \$800 - \$900 per ounce and significantly growing Mineral Resources and Mineral Reserves through an extensive exploration program. As outlined in the technical report and life-of-Mine Plan ("2021 LOMP") filed in March 2021, we now expect Detour Lake to reach 800,000 ounces of production in 2025, and to ultimately grow to over 900,000 ounces per year, with average AISC targeted at \$775 per ounce over the next five years. With today's results, we have now clearly demonstrated both the tremendous exploration potential at Detour Lake as well as the considerable success being achieved through our drilling programs. Based on drilling to date, we have more than tripled M&I Mineral Resources, with more to come as we work to complete another 100,000 metres of drilling by the end of 2021. Our new M&I Mineral Resource estimates include significant growth in Mineral Resources established using a 0.5 g/t cut-off grade, as well as lowgrade Mineral Resources, which under previous plans would have been mined as waste, whereas in the new estimate these will be stockpiled and processed in later years. Everything we see tells us that we are on track for solid growth in Mineral Reserves as part of our December 31, 2021 Mineral Reserve and Mineral Resource statement.

"In addition to the excellent progress being achieved with our exploration program and the completion of our first updated Mineral Resource model since acquiring Detour Lake, we are also advancing efforts to optimize the 2021 LOMP. Based on ongoing work, we are targeting further operational improvements that, in aggregate, are expected to deliver between \$750 million and \$1.0 billion of value enhancement benefits over the next two to five years. These include a variety of initiatives that should improve mill availability and throughput, metallurgical recovery, grade control, automation, innovation and site optimization."

DETOUR LAKE MEASURED & INDICATED MINERAL RESOURCES (EFFECTIVE JUNE 30, 2021)⁽¹⁾⁽²⁾

	June 30, 2021			December 31, 2020			% Change	
Detour Lake (Open-Pit Only)	Tonnes	Grade	Gold Ozs	Tonnes	Grade	Gold Ozs	Gold	Gold
(0.50 g/t Cut Off)	(000's)	(g/t)	(000's)	(000's)	(g/t)	(000's)	Grade	Ounces
Mineral Resources – Measured	Exclusive of Mineral Reserves			Exclusive of Mineral Reserves				
Main Pit	22,800	1.68	1,231	21,000	1.66	1,121	1	10
West Pit	-	ı	-	200	0.89	7	ı	-
North Pit	-	-	-	-	-	-		
Total	22,800	1.68	1,231	21,300	1.65	1,128	2	9
Mineral Resources – Indicated								
Main Pit	182,800	1.00	5,872	86,700	1.03	2,870	-3	105
West Pit	180,400	0.88	5,096	22,700	0.88	644	•	691
North Pit	500	0.90	15	500	0.90	15	•	-
Total	363,700	0.94	10,983	109,900	1.00	3,529	-6	211
Mineral Resources – M&I								
Main Pit	205,600	1.07	7,103	107,700	1.15	3,991	-7	78
West Pit	180,400	0.88	5,096	22,900	0.88	652	-	682
North Pit	500	0.90	15	500	0.90	15	-	-
Total	386,500	0.98	12,214	131,100	1.10	4,657	-11	162
Low-Grade – M&I								
(<0.50 g/t at 0.35 g/t Cut Off)				-	-	-	-	-
Main Pit	71,900	0.42	973	-	-	-	-	-
West Pit	113,400	0.42	1,530	-	-	-	-	-
North Pit	200	0.43	2	-	-	-	-	-
Total	185,500	0.42	2,505	-	-	-	-	-
Total M&I Incl. Low Grade	572,000	0.80	14,718	131,100	1.10	4,657	-27	216



- (1) M&I Mineral Resources are exclusive of Mineral Reserves and include Mineral Resources considered amenable to open-pit mining methods.
- (2) Readers are referred to the detailed footnotes set out below. An updated 43-101 Technical Report with respect to the Mid-Year 2021 Mineral Resource estimates will be filed in the fourth quarter of 2021.

DETOUR LAKE INFERRED MINERAL RESOURCES (EFFECTIVE JUNE 30, 2021)⁽¹⁾⁽²⁾

	June 30, 2021		December 31, 2020			% Change		
Detour Lake (Open-Pit Only)	Tonnes	Grade	Gold Ozs	Tonnes	Grade	Gold Ozs	Gold	Gold
(0.50 g/t Cut Off)	(000's)	(g/t)	(000's)	(000's)	(g/t)	(000's)	Grade	Ounces
Mineral Resources – Inferred								
Main Pit	11,600	0.92	343	31,800	0.82	844	12	-59
West Pit	16,600	0.94	502	20,500	0.95	626	-1	-20
North Pit	10	0.88	-	-	-	-		
Total	28,300	0.93	845	52,300	0.87	1,470	7	-43
Low-Grade – Inferred								
(<0.50 g/t at 0.35 g/t Cut Off)				-	-	-	-	-
Main Pit	9,300	0.42	124	-	-	-	•	-
West Pit	10,700	0.42	146	•	-	-	•	-
North Pit	1	•	-	•	-	-	•	-
Total	20,000	0.42	270	-	-	-	-	-
Total Inferred Incl. Low-Grade	48,300	0.81	1,115	52,300	0.87	1,470	-7	-24

- (1) Inferred Mineral Resources include Mineral Resources considered amenable to open-pit mining methods.
- (2) Readers are referred to the detailed footnotes set out below. An updated 43-101 Technical Report with respect to the Mid-Year 2021 Mineral Resource estimates will be filed in the fourth quarter of 2021.

The Mid-Year 2021 Mineral Resources estimates involve Mineral Resources considered amenable to open pit mining methods. Mineral Resources considered amenable to underground mining methods have not been updated from the December 31, 2020 estimates, which included M&I Mineral Resources of 534,000 ounces (2.9MT at an average grade of 5.8 g/t) and Inferred Mineral Resources totalling 136,000 ounces (1.0MT at an average grade of 4.35 g/t).

Technical Report and Qualified Persons

A Technical Report prepared in accordance with NI 43-101 for Detour Lake will be filed on SEDAR (www.sedar.com) before October 15, 2021. Readers are encouraged to read the Technical Report in its entirety, including all qualifications, assumptions and exclusions that relate to the Mineral Resource. The Technical Report is intended to be read as a whole, and sections should not be read or relied upon out of context.

The Mineral Resource estimates for Detour Lake included in this press release were prepared under the supervision of Eric Kallio, P.Geo., Senior Vice President, Exploration and Andre Leite, P.Eng., AUSIMM CP (MIN), MEng., Vice President, Technical Service. Mr. Kallio and Mr. Leite are "qualified persons" as defined in National Instrument 43-101 and have reviewed and approved disclosure of the scientific and technical information and data in this press release.

About Kirkland Lake Gold Ltd.

Kirkland Lake Gold Ltd. is a senior gold producer operating in Canada and Australia that is targeting 1,300,000 – 1,400,000 ounces of production in 2021. The production profile of the Company is anchored by three high-quality operations, including the Macassa Mine and Detour Lake Mine, both located in Northern Ontario, and the complemented by district scale exploration potential, supported by a strong financial position with extensive management expertise.



For further information on Kirkland Lake Gold and to receive news releases by email, visit the website www.kl.gold.

Footnotes Related to Mineral Resource Calculations

- 1. Mineral Resources classified in accordance with CIM Definition Standards (2019).
- 2. Mid-Year 2021 Mineral Resources are reported on an undiluted basis.
- 3. All Mineral Resources are Exclusive of Mineral Reserves.
- 4. Readers are referred to the 2020 Technical Report filed on SEDAR with respect to the 2020 Mineral Resource estimates and Mineral Reserve estimates.
- 5. Mid-Year 2021 Mineral Resource estimates involve Mineral Resources considered amenable to open-pit mining methods only.
- 6. Mid-Year 2021 Mineral Resources (excluding low-grade Mineral Resources) are based on a cut-off grade of 0.50 g/t Au (unchanged from December 31, 2020 estimates), with low-grade Mineral Resources involving material grading below 0.50 g/t using a cut-off grade of 0.35 g/t (no low-grade Mineral Resources included in December 31, 2020 estimates).
- 7. Mineral Resources were estimated using a gold price of US\$1,500/oz and a CAD/USD exchange rate of 1.31 (unchanged from December 31, 2020 Mineral Resource estimates).
- 8. Other key assumptions in estimating Mineral Resources at June 30, 2021 include: variable metallurgical recovery assumptions based on formulae; 0.05% refining charge, 2% royalty, mining costs of C\$3.05/t mined and an incremental bench cost of \$0.019/t/bench, process costs of C\$8.82/t milled, general and administrative costs of C\$3.47/t milled, non-mining sustaining capital costs of \$2.19/t milled, mining sustaining capital costs of C\$0.56/t mined, and variable pit slope angles that range from 25 56°.
- 9. Other key assumptions in estimating Mineral Resources at December 31, 2020 include: variable metallurgical recovery assumptions based on formulae, 0.05% refining charge, 2% royalty, mining costs of C\$3.42/t mined and an incremental bench cost of \$0.019/t/bench, process costs of C\$9.75/t milled, general and administrative costs of C\$3.59/t milled, non-mining sustaining capital costs of \$2.44/t milled, mining sustaining capital costs of C\$0.35/t mined, and variable pit slope angles that range from 25 56º. The estimates are reported above a cut-off grade of 0.50 g/t Au. Differences in assumptions did not have a material impact on the changes in Mineral Resources included in the June 30, 2021 estimates versus the estimates at December 31, 2020.
- 10. Mineral Resource estimates for Detour Lake were prepared under the supervision of Eric Kallio, P.Geo, Senior Vice President, Exploration and Andre Leite, P.Eng, AUSIMM CP (MIN), MEng., Vice President, Technical Services.
- 11. Tonnes and gold ounce information is rounded to the nearest thousand; As a result, rows and columns may not add exactly due to rounding.
- 12. Mineral resources that are not Mineral Reserves do not have demonstrated economic viability.

Non-IFRS Measures

The Company has included certain non-IFRS measures in this press release, as discussed below. The Company believes that these measures, in addition to conventional measures prepared in accordance with IFRS, provide investors an improved ability to evaluate the underlying performance of the Company. The non-IFRS measures are 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. These measures do not have any standardized meaning prescribed under IFRS, and therefore may not be comparable to other issuers. Please refer to pages 34 to 42 of the Company's Management Discussion and Analysis for the three and six months ended June 30, 2021 for the most recent non-IFRS reconciliations.

Risks and Uncertainties

The exploration, development and mining of mineral deposits involves significant risks, which even a combination of careful evaluation, experience and knowledge may not eliminate. Kirkland Lake Gold is subject to several financial and operational risks that could have a significant impact on its cash flows and profitability. The most significant risks and uncertainties faced by the Company include: the price of gold; the uncertainty of production estimates (which assume

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accuracy of projected grade, recovery rates, and tonnage estimates and may be impacted by unscheduled maintenance, labour and other operating, engineering or technical difficulties with respect to the development of its projects, many of which may not be within the control of the Company), including the ability to extract anticipated tonnes and successfully realizing estimated grades; the threat of outbreaks of viruses or other infectious disease, including COVID-19; changes to operating and capital cost assumptions; the inherent risk associated with project development and permitting processes; the uncertainty of the mineral resources and their development into mineral reserves; the replacement of depleted reserves; foreign exchange risks; changes in applicable laws and regulations (including tax legislation); reclamation obligations; regulatory; tax matters and foreign mining tax regimes, as well as health, safety, environmental and cybersecurity risks. For more extensive discussion on risks and uncertainties refer to the "Risks and Uncertainties" section in the December 31, 2020 Annual Information Form and the Company's MD&A for the period ended December 31, 2020 filed on SEDAR and on EDGAR.

Cautionary Note Regarding Forward-Looking Statements

Certain statements in this press release constitute 'forward looking statements', including statements regarding the plans, intentions, beliefs and current expectations of the Company with respect to the future business activities and operating performance of the Company. The words "may", "would", "could", "will", "intend", "plan", "anticipate", "believe", "estimate", "expect" and similar expressions, as they relate to the Company, are intended to identify such forward-looking statements. Investors are cautioned that forward-looking statements are based on the opinions, assumptions and estimates of management considered reasonable at the date the statements are made, and are inherently subject to a variety of risks and uncertainties and other known and unknown factors that could cause actual events or results to differ materially from those projected in the forward-looking statements. These factors include, among others, the development of the Company's properties and the anticipated timing thereof, expected production from, and the further potential of the Company's properties, the potential to increase the levels of mineral resources and mineral reserves and potential conversion of mineral resources; the anticipated timing with respect to the updated 43-101 technical report for the Detour Lake Mine with respect to the updated mineral reserves estimate and the updated mineral resources estimate; and commencement of exploration programs on various targets within the Company's land holdings and the implication of such exploration programs (including but not limited to any potential decisions to proceed to commercial production), the anticipated overall impact of the Company's COVID19 response plans, including measures taken by the Company to reduce the spread of COVID19, including but not limited to the rapid testing implemented at the Company's sites, the ability to lower costs and gradually increase production, the ability of the Company to successfully achieve business objectives, the ability of the Company to achieve its longer-term outlook and the anticipated timing and results thereof, statements made with respect to our guidance for production, assumptions relating to revenues, operating cash flow and other metrics set out in the Company's disclosure materials, the optimization of the Company's mine plans, including the updated mine plan for the Detour Lake mine expected in 2022, the Company's continuous improvement initiatives and the potential impacts thereof, the performance of the Company's equity investments and the ability of the Company to realize on its strategic goals with respect to such investments, the effects of unexpected costs, liabilities or delays, the potential benefits and synergies and expectations of other economic, business and or competitive factors, including the ability of the Company to realize on certain planned synergies associated with the acquisition of Detour Gold Corporation, the Company's expectations in connection with the projects and exploration programs being met, the impact of general business and economic conditions, global liquidity and credit availability on the timing of cash flows and the values of assets and liabilities based on projected future conditions, fluctuating gold prices, currency exchange rates (such as the Canadian dollar versus the US dollar), mark-to-market derivative variances, possible variations in ore grade or recovery rates, changes in accounting policies, changes in the Company's corporate mineral resources, changes in project parameters as plans continue to be refined, changes in project development, construction, production and commissioning time frames, the possibility of project cost overruns or unanticipated costs and expenses, higher prices for fuel, power, labour and other consumables contributing to higher costs and general risks of the mining industry, failure of plant, equipment or processes to operate as anticipated, unexpected changes in mine life, seasonality and unanticipated weather changes, costs and timing of the development of new deposits, success of exploration activities, permitting time lines, risks related to information technology and cybersecurity, timing and costs associated with the design, procurement and construction of the Company's various capital projects, including but not limited to potential future impacts and effects of COVID19, including but not limited

to potential future delays and unanticipated suspension or interruption of operations, the #4 Shaft project at the Macassa Mine, the ventilation, paste plant, transformer and water treatment facility at the Fosterville Mine, the ability to obtain all necessary permits associated with the Detour Lake Mine, the ability to obtain the necessary permits in connection with all of its various capital projects, including but not limited to the rehabilitation of the Macassa tailings facility and the development of a new tailings facility and the anticipated results associated therewith, the West Detour project, processing plant expansion at the Detour Lake Mine, the ability to obtain renewals of certain exploration licences in Australia, native and aboriginal heritage issues, including but not limited to ongoing negotiations and consultations with the Company's First Nations partners, risks relating to infrastructure, permitting and licenses, exploration and mining licences, government regulation of the mining industry, risks relating to foreign operations, uncertainty in the estimation and realization of mineral resources and mineral reserves, quality and marketability of mineral product, environmental regulation and reclamation obligations, including but not limited to risks associated with reclamation and closure obligations relating to the Northern Territory projects, risks relating to the Northern Territory wet season, risks relating to litigation and unanticipated costs to assume the defence of such litigation, risks relating to applicable tax and potential reassessments thereon, risks relating to changes to tax law and regulations and the Company's interpretation thereof, foreign mining tax regimes and the potential impact of any changes to such foreign tax regimes, competition, currency fluctuations, government regulation of mining operations, environmental risks, unanticipated reclamation expenses, title disputes or claims, and limitations on insurance, as well as those risk factors discussed or referred to in the AIF of the Company for the year ended December 31, 2020 filed with the securities regulatory authorities in certain provinces of Canada and available at www.sedar.com. Should one or more of these risks or uncertainties materialize, or should assumptions underlying the forward-looking statements prove incorrect, actual results may vary materially from those described herein as intended, planned, anticipated, believed, estimated or expected. Although the Company has attempted to identify important risks, uncertainties and factors which could cause actual results to differ materially, there may be others that cause results not be as anticipated, estimated or intended. The Company does not intend, and does not assume any obligation, to update these forward-looking statements except as otherwise required by applicable law.

Mineral resources are not mineral reserves, and do not have demonstrated economic viability, but do have reasonable prospects for eventual economic extraction. Measured and indicated resources are sufficiently well defined to allow geological and grade continuity to be reasonably assumed and permit the application of technical and economic parameters in assessing the economic viability of the resource. Inferred resources are estimated on limited information not sufficient to verify geological and grade continuity or to allow technical and economic parameters to be applied. Inferred resources are too speculative geologically to have economic considerations applied to them to enable them to be categorized as mineral reserves. There is no certainty that Measured or Indicated mineral resources can be upgraded to mineral reserves through continued exploration and positive economic assessment.

Information Concerning Estimates Of Mineral Reserves And Measured, Indicated And Inferred Resources

This press release has been prepared in accordance with the requirements of the securities laws in effect in Canada, which differ in certain material respects from the disclosure requirements of United States securities laws. The terms "mineral reserve", "proven mineral reserve" and "probable mineral reserve" are Canadian mining terms as defined in accordance with Canadian National Instrument 43-101 – Standards of Disclosure for Mineral Projects ("NI 43-101") and the Canadian Institute of Mining, Metallurgy and Petroleum (the "CIM") – CIM Definition Standards on Mineral Resources and Mineral Reserves, adopted by the CIM Council, as amended (the "CIM Standards"). These definitions differ significantly from the definitions in the disclosure requirements promulgated by the Securities and Exchange Commission (the "SEC") applicable to domestic reporting companies. Investors are cautioned that information contained in this Annual Information Form may not be comparable to similar information made public by United States companies subject to the reporting and disclosure requirements under the United States federal securities laws and the rules and regulations of the SEC thereunder.



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