



Alexco Reports 43% Expansion of Bermingham Indicated Resource to 47 Million Ounces of Silver at 939 Grams per Tonne; Remains Open

Inferred Resource Expanded by 70% to 20 Million Ounces of Silver at 735 Grams per Tonne

January 18, 2022 - Alexco Resource Corp. (NYSE American: AXU) (TSX: AXU) ("Alexco" or the "Company") today reports an updated and expanded mineral resource estimate for the Company's Bermingham deposit, located within the Keno Hill Silver District ("KHSD" or the "District") in Canada's Yukon Territory.

Bermingham Resource Estimate Highlights

As a result of exploration work conducted during the period 2019 through 2021, including the recently completed 17,742 meter ("m") directional drilling program ([see news release](#)):

- The Bermingham indicated mineral resource estimate has expanded from 33.0 million ("M") ounces to 47.2 M ounces of contained silver ("Ag") at an average grade of 939 grams per tonne ("g/t") Ag.
- The inferred mineral resource estimate has increased from 11.7 M ounces to 19.9 M ounces of contained Ag at an average grade of 735 g/t Ag.
- The updated mineral resource estimate was prepared by SRK Consulting (Canada) Inc. ("SRK") and a comparison to the prior mineral resource estimate is outlined below:

Bermingham Mineral Resource Estimate – Comparison to 2019				
		Resource Estimates		
Category		Current	March 28, 2019	Change (%)
Indicated Tonnes	(t)	1,562,700	1,102,300	+42%
Indicated Ag Grade	(g/t)	939 g/t	930 g/t	+1%
Total Indicated Ag	(ounces)	47,210,000	32,959,000	+43%
Inferred Tonnes	(t)	843,400	509,400	+66%
Inferred Ag Grade	(g/t)	735 g/t	717 g/t	+3%
Total Inferred Ag	(ounces)	19,930,000	11,743,000	+70%

The detailed table of resources is in Appendix 1 and Appendix 2.

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Including the expanded silver mineral resource at Bermingham, the total indicated mineral resource estimate for the Company's two primary mining centers in the District, the Bermingham and Flame & Moth deposits, increased by 24% from 59.8 M ounces to 74.1 M ounces of contained silver. Similarly, the inferred mineral resource estimate increased by 51% from 15.9 M ounces to 24.1 M ounces of contained silver. As a result of these changes, Alexco is currently re-evaluating the life of mine plan for both deposits with a view to potentially expand the combined estimated 33.8 M ounce silver mineral reserve.

Alexco Chairman and Chief Executive Officer Clynt Nauman said, "As the Bermingham deposit continues to grow in size and grade whilst still remaining open, it is becoming increasingly obvious that we are working within one of the most productive and extensive mineralized systems in the Keno Hill district. Significant additional exploration is yet to be completed, ranging from near-mine deposit expansion drilling to kilometer scale exploration along strike on Galena Hill. Even in its present interim discovery and early production stage, the Bermingham deposit is already one of the largest deposits in the KHSD. Furthermore, its relationship to the adjacent Hector-Calumet deposit (which historically produced more than 90 million ounces of silver) while remaining undefined, offers intriguing opportunities. The Bermingham deposit is currently producing ore from long hole stopes in the upper 1150 level, and along with opening up additional production levels in 2022, we will continue to advance the primary haulage ramp toward lower levels where it will be within 200m of the newly defined Bermingham Northeast Deep Zone resource".

Operations Update

Ore tonnes milled in the fourth quarter of 2021 ("**Q4 2021**") from Bellekeno and Bermingham totaled 7,172 tonnes, a slight decrease of 1.4% compared to the third quarter of 2021 ("**Q3 2021**"), primarily due to a longer period to transition from Bellekeno to long hole stoping at Bermingham. During December 2021, additional mill throughput campaigns were completed and the mill reached a peak throughput of 22.5 dry metric tonnes ("**dmt**") per hour over a sustained period, which is 25% higher than the 18 dmt per hour (equivalent to 400 tonnes per day) design capacity of the mill. The majority of ore milled in Q4 2021 was from Bermingham and the metallurgical performance of this milled Bermingham ore was 91% Ag recovery with an average of 17,076 g/t Ag in the lead ("**Pb**") concentrate. Notably, there is good reconciliation of silver production to the underlying block model. Over the next three months the focus at Bermingham remains on longhole ore extraction from the 1150 level and advancing the primary ramp to the 1120 level to access the higher grade cut and fill stopes.

Waste development meters at Flame & Moth increased by 25% in Q4 2021 over Q3 2021 and as scheduled, initial ore has recently been cross-cut on the 835 level. Flame & Moth remains on target to have five ore faces available in the first quarter of 2022 ("**Q1 2022**"). The Alimak raise at Flame & Moth continues to advance and is on track for completion in Q1 2022.

The recent surge in Covid cases from the Omicron variant across Canada may have an impact on operations at Keno Hill in early Q1 2022 as we anticipate a reduction in mine and mill operations crews and on-site staffing due to isolation and travel protocols. Our primary focus remains the health and safety of our employees and contractors as we continue to adhere to our strict site protocols including enhanced hygiene, screening, on site testing, and isolation and travel requirements provided by medical experts and applicable provincial and territorial health orders.

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Birmingham Deposit Resource – Detail

The Birmingham deposit comprises a closely spaced series of subparallel steeply southeast dipping vein sets – identified (hangingwall to footwall) as the Birmingham Main, Footwall and Bear veins that can be traced over a northeasterly strike distance of 900 m in four zones identified (from southwest to northeast) as the Etta, Arctic, Bear and Northeast zones that are separated by post-mineral faults. The newly defined Northeast Deep zone (“**NE Deep**”) is located 150m down dip from the Northeast zone.

A detailed mineral resource estimate by vein and zone was prepared by SRK and is summarized below:

2021 Birmingham Mineral Resource Statement (effective November 30, 2021)										
SRK Consulting (Canada) Inc.										
Cut-off: 2021 MetVal (CDN\$/tonne) ≥ 185.00 \$/t										
Category	Zone	Tonnes (k t)	Ag (g/t)	Au (g/t)	Pb (%)	Zn (%)	Ag (M oz)	Au (oz)	Pb (M lbs)	Zn (M lbs)
<i>Indicated</i>	Arctic	537.7	831	0.14	2.1	1.5	14.4	2,463	25.3	18.3
	Bear	315.6	1,286	0.19	3.1	1.6	13.1	1,892	21.2	10.9
	Etta	224.7	687	0.08	2.2	2.3	5.0	604	10.8	11.3
	NE Deep	426.8	978	0.18	3.3	1.7	13.4	2,553	30.8	15.8
	Northeast	58	753	0.13	1.9	1.8	1.4	237	2.4	2.3
Total Indicated		1,562.7	939	0.15	2.6	1.7	47.2	7,750	90.5	58.6
<i>Inferred</i>	Arctic	177.9	765	0.22	1.9	1.6	4.4	1,228	7.5	6.3
	Bear	121.8	1,023	0.14	2.2	1.0	4.0	543	6.0	2.7
	Etta	110.3	443	0.06	1.1	2.1	1.6	227	2.6	5.2
	NE Deep	281	819	0.15	2.5	1.1	7.4	1,367	15.7	7.0
	Northeast	152.3	527	0.12	1.4	1.2	2.6	568	4.8	4.0
Total Inferred		843.4	735	0.15	2.0	1.3	19.9	3,933	36.6	25.1

Notes:

- The effective date of this mineral resource estimate is dated November 30, 2021 to reflect all mining depletion at that date.

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2. Mineral resources are not mineral reserves and do not have demonstrated economic viability.
3. Mineral resources are reported at a value per tonne cut-off of CAD\$185/tonne using the following metal prices, recoveries and foreign exchange rate;
 - a Ag: US\$22.11/oz and recovery of 95.6%
 - b Au: US\$1694/oz and recovery of 49%
 - c Pb: US\$0.92/lb and recovery of 92.2%
 - d Zn: US\$1.10/lb and recovery of 82%
 - e Exchange rate: US\$:CAD\$ of 0.778
4. All numbers have been rounded to reflect the relative accuracy of the estimates and may not add up due to rounding.

The NE Deep zone comprises a subhorizontal zone of mineralization with a (currently) defined strike extent of 500m and an apparent dip extent exceeding 100m. The mineralization is focussed along the intersection of the Birmingham Main and Birmingham Footwall veins. Similarly, the three mineralized vein systems which dominate the Birmingham deposit variably intersect, splay and change orientation along strike within a north-northeast striking and moderately to steeply southeast dipping vein fault structural corridor. Vein intersections within this corridor largely dictate the location of high-grade mineralization which is characterized by the presence of a silver bearing mineral assemblage, including pyrrargyrite (ruby silver), freibergite, argentiferous galena, stephanite, polybasite and wire silver in a dominantly sideritic gangue.

Birmingham Deposit – Resource Estimation Basis

The resource base at Birmingham is a result of surface and underground diamond drilling programs conducted by Alexco between 2009 and 2021. The database at Birmingham currently includes 280 drill holes for a total of 92,367 m of core. The resource estimation presented here incorporates the results from 458 vein intervals from 228 holes.

The Birmingham mineral resource estimate was updated using Seequent's Leapfrog Edge software, using a multiple pass estimation approach in a six by three by six meter block size using ordinary kriging and inverse distance interpolation techniques. Grade estimates were based on one meter composited assay data, incorporating grade caps assessed for each vein individually. All mineral resources are classified following the CIM Definition Standards for Mineral Resources and Mineral Reserves (May 2014), in accordance with the CIM Estimation of Mineral Resources and Mineral Reserves Best Practice Guidelines and with NI 43-101 guidelines.

This mineral resource estimate for Birmingham provides an update from the information found in the Company's most recent Technical Report, titled "NI 43-101 Technical Report on Updated Mineral Resource and Reserve Estimate of the Keno Hill Silver District" with an effective date of April 1, 2021 (dated and filed on SEDAR on May 26, 2021). Readers are cautioned that the conclusions, projections, and estimates set out in this news release are subject to important qualifications, assumptions, and exclusions, all of which are detailed in the Technical Report. To fully understand the resource update and the summary information set out in this press release, the Technical Report filed on SEDAR at www.sedar.com should be read in its entirety.

A summary of all of Alexco's KHSD mineral resources incorporating the updated mineral resource estimates for Birmingham are appended to this release and are available for review on the Company's website at www.alexcoresource.com.

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Qualified Persons

SRK prepared the updated mineral resource estimate for the Bermingham deposit, and is independent of Alexco for purposes of National Instrument 43-101 - *Standards of Disclosure for Mineral Projects* ("NI 43-101"). The Bermingham mineral resource estimate was completed by Cliff Revering, P.Eng., Principal Consultant (Geological Engineering) with SRK. Mr. Revering is a Qualified Person as defined by NI 43-101 and has reviewed, verified and approved the contents of this news release relating to the mineral resource estimate for the Bermingham deposit. All mineral resources are classified following the CIM Definition Standards for Mineral Resources and Mineral Reserves (May 2014), in accordance with the CIM Estimation of Mineral Resources and Mineral Reserves Best Practice Guidelines and with NI 43-101 guidelines.

The disclosure of all other scientific and technical information in this news release regarding exploration projects on Alexco's mineral properties has been reviewed and approved by Alan McOnie, FAusIMM, while that regarding mine development and operations has been reviewed and approved by Sebastien D. Tolgyesi, P.Eng., P.Geo. (Keno Hill Operations Manager, Alexco), both of whom are Qualified Persons as defined by National Instrument 43-101 – *Standards of Disclosure for Mineral Projects*.

The drill data and sampling protocols have been reviewed, verified, and compiled by Alexco's geologic staff since 2011 under the supervision of Alan McOnie, former Vice President, Exploration for Alexco and a Qualified Person as defined by National Instrument 43-101. A rigorous quality control and quality assurance protocol is used on the project, including blank, duplicate, and standard reference samples in each batch of 20 samples delivered to the assay lab. Drill core samples included in the updated resource estimation were direct shipped to ALS Minerals Labs at Whitehorse, Yukon Territory for preparation, with fire assay, multi-element ICP analyses and ore grade over limits completed at the ALS Minerals facility in North Vancouver, British Columbia.

About Alexco

Alexco is a Canadian primary silver company that owns and operates the majority of the historic Keno Hill Silver District, in Canada's Yukon Territory, one of the highest-grade silver deposits in the world. Alexco is currently advancing Keno Hill to commercial production and commenced concentrate production and shipments in the first quarter of 2021. Keno Hill is expected to produce an average of approximately 4.4 million ounces of silver per year contained in high quality lead/silver and zinc concentrates. Keno Hill retains significant potential to grow and Alexco has a long history of expanding the operation's mineral resources through successful exploration.

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Forward-Looking Statements

Some statements ("forward-looking statements") in this news release contain forward-looking information concerning Alexco's anticipated results and developments in Alexco's operations in future periods, planned exploration and development of its properties, plans related to its business and other matters that may occur in the future, made as of the date of this news release. Forward-looking statements may include, but are not limited to, statements with respect to the future remediation and reclamation activities, future mineral exploration, the estimation of mineral reserves and mineral resources, the realization of mineral reserve and mineral resource estimates, future mine construction and development activities, future mine operation and production, the timing of activities and reports, the amount of estimated revenues and expenses, the success of exploration activities, permitting time lines, requirements for additional capital and sources and uses of funds. Forward-looking statements are subject to a variety of known and unknown risks, uncertainties and other factors, which could cause actual events or results to differ from those expressed or implied by the forward-looking statements. Such factors include, among others, risks related to actual results and timing of exploration and development activities; actual results and timing of mining activities; actual results and timing of environmental services activities; actual results and timing of remediation and reclamation activities; conclusions of economic evaluations; changes in project parameters as plans continue to be refined; future prices of silver, gold, lead, zinc and other commodities; possible variations in mineable resources, grade or recovery rates; failure of plant, equipment or processes to operate as anticipated; accidents, labour disputes and other risks of the mining industry; First Nation rights and title; continued capitalization and commercial viability; global economic conditions; competition; and delays in obtaining governmental approvals or financing or in the completion of development activities. Forward-looking statements are based on certain assumptions that management believes are reasonable at the time they are made. In making the forward-looking statements included in this news release, Alexco has applied several material assumptions, including, but not limited to, the assumption that Alexco will be able to raise additional capital as necessary, that the proposed exploration and development will proceed as planned, and that market fundamentals will result in sustained silver, gold, lead and zinc demand and prices. There can be no assurance that forward-looking statements will prove to be accurate and actual results and future events could differ materially from those anticipated in such statements. Alexco expressly disclaims any intention or obligation to update or revise any forward-looking statements whether as a result of new information, future events or otherwise, except as otherwise required by applicable securities legislation.

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APPENDIX I - Summary of Mineral Reserve and Resource Estimates

The following tables sets forth the estimated Probable Mineral Reserves and Mineral Resources for the Corporation's mineral properties within the Keno Hill Silver District:

Summary of Mineral Reserves

Deposit ³	Category	Tonnes	Ag (g/t)	Pb (%)	Zn (%)	Au (g/t)	Contained Metal			
							Ag (000 oz)	Au (000 oz)	Pb (M lbs)	Zn (M lbs)
Bellekeno	Probable	12,809	936	13.0	7.3	0	385	0	4	2
Bellekeno Surface Stockpile	Probable	3,397	1,150	21.7	4.5	0	126	0	2	0
Lucky Queen	Probable	70,648	1,269	2.7	1.6	0.1	2,883	0	4	2
Flame & Moth	Probable	721,322	672	2.7	6.2	0.5	15,590	11	43	99
Birmingham	Probable	630,173	899	2.3	1.3	0.1	18,209	3	31	18
Total	Probable	1,438,349	804	2.6	3.8	0.3	37,193	14	84	122
Notes: <ol style="list-style-type: none"> 1. Mineral Reserves reported herein are dated May 26, 2021 (see news release) and do not include depletion since that time. 2. Mineral Reserves are reported herein based on an NSR cutoff value using estimated metallurgical recoveries, assumed metal prices and smelter terms, which include payable factors, treatment charges, penalties, and refining charges. 3. Tonnage and grade measurements are in metric units. Contained gold and silver ounces are reported as troy ounces. 4. The Bellekeno, Lucky Queen, Flame & Moth and Birmingham deposits are incorporated into the current mine plan supported by disclosure in the news release dated May 26, 2021 entitled "Alexco Announces 22% Increase to Silver Reserves; Updated Technical Report Demonstrates Robust Economics at Keno Hill". 5. Rounding as required by reporting guidelines may result in apparent summation differences between tonnes, grade and contained metal content. 										



Summary of Indicated and Inferred Mineral Resources

Category	Deposit	Tonnes	Ag (g/t)	Au (g/t)	Pb (%)	Zn (%)	Contained Ag (oz)
<i>Indicated</i>	Bellekeno	213,000	620	n/a	5.5	5.5	4,246,000
	Lucky Queen	132,300	1,167	0.2	2.4	1.6	4,964,000
	Flame & Moth	1,679,000	498	0.4	1.9	5.3	26,883,000
	Onek	700,200	191	0.6	1.2	11.9	4,300,000
	Birmingham	1,562,700	939	0.2	2.6	1.7	47,210,000
Total Indicated		4,287,200	635	0.3	2.2	5.0	87,603,000
<i>Inferred</i>	Bellekeno	302,000	359	n/a	2.5	5.4	3,486,000
	Lucky Queen	257,900	473	0.1	1.0	0.8	3,922,000
	Flame & Moth	365,200	356	0.3	0.5	4.3	4,180,000
	Onek	285,100	118	0.4	1.2	8.3	1,082,000
	Birmingham	843,400	735	0.2	2.0	1.3	19,930,000
Total Inferred		2,053,600	494	0.2	1.6	3.3	32,600,000
Notes: <ol style="list-style-type: none"> 1. All Mineral Resources are classified following the CIM Definition Standards for Mineral Resources and Mineral Reserves (May 2014) of NI 43-101. 2. Indicated Mineral Resources are inclusive of Probable Mineral Reserves estimates. 3. Mineral Resources are not Mineral Reserves and do not have demonstrated economic viability. All numbers have been rounded to reflect the relative accuracy of the estimates. 4. The Mineral Resource estimates comprising Lucky Queen and Flame & Moth, Onek and Birmingham are supported by disclosure in the news release dated May 26, 2021 entitled "Alexco Announces 22% Increase to Silver Reserves,; Updated Technical Report Demonstrates Robust Economics at Keno Hill" and the Technical Report filed on SEDAR dated May 26, 2021 with an effective date of April 1, 2021. 5. The Mineral Resource estimate for the Birmingham deposit is based on Mineral Resource estimates having an effective date of November 30, 2021. 6. The Mineral Resource estimate for the Lucky Queen, Flame & Moth and Onek deposits have an effective date of January 3, 2017. 7. The Mineral Resource estimate for the Bellekeno deposit is based on an internal Mineral Resource estimate completed by Alexco Resource Corp. and externally audited by SRK Consulting Inc., having an effective date of January 01, 2021. This Mineral Resource estimate has been depleted to reflect all mine production from Bellekeno to the end of December 2020 and does not reflect any depletion from production that occurred in 2021. 							

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APPENDIX 2 Location of the Reserve, Resources

