



News Release

Alexco Expands Bermingham Indicated Resource to 17 Million Ounces Silver, Remains Open

January 3, 2017 - Alexco Resource Corp. (TSX:AXR, NYSE-MKT:AXU) today reports an updated mineral resource estimate for the Bermingham deposit, located within the Keno Hill Silver District (“KHSD”) in Canada’s Yukon Territory. The Bermingham indicated mineral resources are expanded from 5.2 million ounces to 17.3 million ounces of contained silver, while inferred mineral resources increased from approximately 0.7 million ounces to 5.5 million ounces of contained silver. As a result, Alexco’s district-wide indicated mineral resources at Keno Hill increased approximately 22% from 55.4 million ounces to 67.5 million ounces of contained silver.

The Bermingham deposit comprises a westerly Etta Zone and a fault separated larger easterly Arctic Zone. Recent work (2015 – 2016) has focused on the northeasterly extension of the Arctic Zone where several structurally controlled sets of subparallel moderately to steeply southeast dipping veins including the Bermingham, Bermingham Footwall and Bear veins splay and rejoin in a manner controlled by the host rock stratigraphy. A westerly and shallower dipping conjugate vein set (West Dipper vein) is also present. All vein sets in the northeasterly Arctic Zone are closely associated, connected either laterally or vertically within the wider Bermingham vein-fault structural corridor that is silver enriched over a 660 m strike length, with mineralization extending from between 90 m to 160 m below surface to a depth of approximately 350 m where veining remains open.



The updated mineral resource estimate was prepared by SRK Consulting (Canada) Inc. (“SRK”) and is summarized as follows:

Deposit	Zone	Class	Vein	Tonnage	Silver (g/t)	Lead (%)	Zinc (%)	Gold (g/t)	Silver Oz	
Bermingham Vein Structure	Arctic	Indicated	Bermingham	248,000	376	1.47	1.33	0.12	3,001,000	
			Bear	148,000	1,376	4.51	1.76	0.22	6,532,000	
			Bermingham Footwall	122,000	717	3.63	1.33	0.20	2,823,000	
			West-Dipper	21,000	729	2.47	2.32	0.12	502,000	
			Total Arctic Indicated	539,000						12,858,000
	Etta	Indicated	Bermingham	124,000	421	2.26	2.20	0.07	1,681,000	
			Bermingham Footwall	195,000	444	1.28	1.76	0.06	2,779,000	
			Total Etta Indicated	319,000					4,460,000	
	Total Indicated				858,000	628	2.40	1.65	0.13	17,318,000
	Arctic	Inferred	Bermingham	46,000	460	1.92	2.21	0.12	680,000	
			Bear	68,000	522	2.62	1.15	0.14	1,146,000	
			Bermingham Footwall	72,000	1,276	1.24	3.06	0.18	2,961,000	
			West-Dipper	4,000	1,802	17.19	8.23	0.54	246,000	
			Total Arctic Inferred	191,000					5,033,000	
	Etta	Inferred	Bermingham	3,000	474	2.12	2.36	0.07	47,000	
			Bermingham Footwall	26,000	436	1.24	1.69	0.07	371,000	
			Total Etta Inferred	30,000					418,000	
Total Inferred				220,000	770	2.13	2.21	0.15	5,451,000	

Notes:

1. The effective date of this mineral resource estimate is January 3, 2017.
2. 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 estimate.
3. Reported at a contained metal value cut-off grade of CAD \$185.00/t (US\$0.80=C\$1) using consensus long term metal prices (US\$) and recoveries developed for the nearby Bellekeno deposit (Ag US\$20.00/oz, recovery 96%; Pb US\$0.95/lb, recovery 97%; Zn US\$1.00/lb, recovery 88%; Au US\$1,300/oz, recovery 72%).
4. Ag grades capped at 1,500 grams per tonne (“g/t”); Zn capped at 9.5%; Pb capped at 9% for the Bermingham vein.
5. Ag grades capped at 11,000 g/t, Zn capped at 7% and Pb capped at 20% for the Bear Vein.
6. Ag grades capped at 3,000 g/t, Zn capped at 9% and Pb capped at 30% for the Bermingham Footwall vein.
7. Ag grades capped at 2,000, Zn capped at 12% and Pb capped at 20% for the West Dipper vein.
8. Table numbers may not add up due to rounding.

Alexco President and Chief Executive Officer Clynt Nauman said, “The majority of the tonnage in the Bermingham deposit resides in the Arctic Zone. The northeastern extension of the Arctic Zone is defined by higher grade mineralization primarily in the closely juxtaposed Bear and West Dipper veins which on a consolidated basis (Appendix II) contain:

- Indicated: 169,000 tonnes of 1,296 g/t silver, including 49,000 tonnes of 2,543 g/t silver in the Bear vein.
- Inferred: 72,000 tonnes of 593 g/t silver, including 4,000 tonnes of 1,818 g/t silver in the West Dipper vein.



Importantly, the veins and structures hosting this higher grade mineralization remain largely untested at depth. Finally, the discovery of a West Dipper vein set is particularly significant as both Boyle (1965) and Cathro (2006), pre-eminent geologists in the understanding of the geology of the KHSD, document the importance of shallower west dipping conjugate veins in the highest grade deposits in the district, most notably the nearby historical Elsa Mine. Looked at in total, the Birmingham deposit is emerging as a fairly large discovery, now characterized by more than 850,000 tonnes of indicated mineralization with an average silver grade approximately 25% higher than our Flame & Moth deposit.”

Birmingham Deposit

Alexco conducted surface diamond drilling programs at Birmingham between 2009 and 2012 and again in 2014, with 61 holes drilled totaling 18,699 m. In 2015 and 2016 a further 19,977 m were drilled in 58 holes such that the entire data base at Birmingham now includes 119 holes for 38,676 m. All of this drilling was inclined northwesterly except for five holes (1,729 m) drilled southeasterly (parallel to the dominant vein dip direction) to identify and define the newly discovered west dipping conjugate vein set (the “West Dipper”). The resource estimation presented here incorporates the results from 275 composite assay intervals from 93 holes compared with those from 38 holes that were used in the April 2015 estimation.

Drilling in 2016 was focused on obtaining resource definition intercept spacings, particularly on the high grade Bear vein that ranges in true width up to 6.4 m at 182 ounce per tonne (“oz/t”) silver (K-14-0537) and in grade up to 240 oz/t silver over 5.0 m true width (K-15-0580) and that has now been traced over a down-plunge extent of 270 m (over a vertical range of 230 m) and a plunge width of up to 100 m, with the top of the deposit in this vicinity being approximately 160 m below surface.

Interpretation of the consolidated drilling results has identified four mineralized veins that splay and change orientation along strike within the north-northeast striking and moderately to steeply southeast dipping Birmingham vein-fault structural corridor. This structural corridor is divided into the Etta Zone that lies in the hangingwall of the post-mineral Mastiff Fault and the Arctic Zone in its footwall. The main through-going Birmingham and Birmingham Footwall veins occur in both the Etta and Arctic zones, while the Bear vein and associated newly identified conjugate West Dipper vein set occur only within the Arctic Zone in a position controlled by a flexure in the Birmingham vein-fault. The resource estimate update incorporates both the Birmingham and Birmingham Footwall vein previously reported within the Etta and Arctic zones, with a significant extension of the Arctic zone within the known veins and the two newly discovered veins.

The Birmingham deposit veins typically occur in structurally complex zones as discrete veins 0.5 m to more than 5 m wide with a five to ten meters wide structurally damaged vein margin. The discrete veins exhibit heavily-disseminated to massive mineralization while mineralization in the vein margins is commonly more stringer-like. The Birmingham resource has been separately estimated in terms of these mineralization categories as shown in Appendix II. Regardless of category, higher grade Birmingham mineralization is generally characterized by the presence of a complex silver bearing mineral assemblage including pyrargyrite (ruby silver), freibergite, argentiferous galena, stephanite, polybasite and wire silver in a dominantly sideritic gangue.



Metallurgical test work has demonstrated that silver and lead recoveries are expected to be in the range of 94% to 96%, while producing a lead concentrate grading in excess of 60% lead and 30,000 g/t silver. Zinc recovery is predicted to be in the range of 70% to 75% to a zinc concentrate grading in excess of 50% zinc.

The Birmingham mineral resource was estimated using 3-D Gemcom block modeling software in multiple passes in three by three by three meter blocks by ordinary kriging. Grade estimates were based on capped one meter composited assay data. Capping levels were set to 1,500 g/t for silver for the Birmingham vein, 3,000 g/t for the Footwall vein, 2,000 for the West Dipper Vein and 11,000 for the Bear vein; lead was capped at 9.5% for the Birmingham vein, 30% for the Footwall vein, 20% for the West Dipper Vein and at 30% for the Bear vein. Zinc was capped at 9% for the Birmingham and Footwall veins, at 7% for the Bear vein and at 12% for the West Dipper vein. Blocks were classified as indicated mineral resources if at least three drill holes and five composites were found within the first pass search ellipse. All other interpolated blocks were classified as inferred mineral resources.

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.

Technical Report Update, 2017 Exploration Plans

In March, 2017, Alexco plans to publish an updated Preliminary Economic Assessment including technical support for the expanded Birmingham resource estimation presented here, as well as updated mine plans for the Flame & Moth, Bellekeno and Lucky Queen deposits and a preliminary mine plan for potentially mineable tonnes from the Birmingham deposit.

Alexco is presently planning a minimum 5,000 m surface diamond drilling program at Birmingham in 2017 primarily to expand high grade mineralization down-plunge into an area where, as an outcome of 2016 drilling, the Birmingham vein system is observed to closely imitate the large-scale looping vein geometries observed at the largest past-producing mine in the district, the Hector-Calumet mine (96 million ounces of silver). Subject to permitting requirements, the Company is also contemplating an underground exploration program at Birmingham to infill and upgrade the higher grade areas in the shallower portion of the resource.

References

Boyle, R.W., 1965.

"Geology, Geochemistry, and Origin of the Lead-Zinc-Silver Deposits of the Keno Hill – Galena Hill Area, Yukon Territory". Bulletin 111, Geological Survey of Canada.

Cathro, R.J., 2006.

"The History and Geology of the Keno Hill Silver Camp Yukon Territory." Geoscience Canada, Volume 33, Number 3.



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 Dr. Gilles Arseneau, P.Geo., Associate Consultant (Resource Geology) with SRK, whom is Qualified Persons as defined by NI 43-101. Dr. Arseneau 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 metallurgical testing information in this news release has been reviewed and verified by Jeffrey B. Austin P. Eng., President International Metallurgical and Environmental Inc. and a Qualified Person as defined by NI 43-101.

The disclosure of all other scientific and technical information in this news release regarding projects on Alexco’s mineral properties has been reviewed and approved by Alan McOnie, FAusIMM, Alexco’s Vice President, Exploration and a Qualified Person as defined by NI 43-101.

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, Vice President, Exploration for Alexco and a Qualified Person as defined by National Instrument 43-101 and previously by Stan Dodd, 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 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 Resource Corp. owns the Bellekeno silver mine, one of several mineral properties held by Alexco which encompass substantially all of the historical KHSD located in Canada’s Yukon Territory. Employing a unique business model, Alexco also provides mine-related environmental services, remediation technologies and reclamation and mine closure services to both government and industry clients through the Alexco Environmental Group, its wholly-owned environmental services division.

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Some statements (“forward-looking statements”) in this news release contain forward-looking information concerning the Company’s anticipated results and developments in the Company’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 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, the Company has applied several material assumptions, including, but not limited to, the assumption 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. The Company 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.



APPENDIX I - Summary of Resources

The following table sets forth the estimated resources for Alexco's mineral properties within the Keno Hill Silver District:

Category ^{1,2,11}	Property	Tonnes	Ag (g/t)	Au (g/t)	Pb (%)	Zn (%)	Contained Ag (oz)
Indicated	Bellekeno Deposit ^{3&4}	262,000	585	<i>n/a</i>	3.5%	5.3%	4,927,000
	Lucky Queen Deposit ^{3&5}	124,000	1,227	0.2	2.6%	1.7%	4,892,000
	Flame & Moth Deposit ^{3&6}	1,638,000	506	0.4	1.9%	5.4%	26,650,000
	Onek ^{3&7}	654,000	200	0.6	1.3%	12.3%	4,205,000
	Birmingham ^{3&8}	858,000	628	0.1	2.4%	1.7%	17,318,000
	Total Indicated – Sub-Surface	3,536,000	510	<i>n/a</i>	2.1%	5.6%	57,992,000
	Elsa Tailings ⁹	2,490,000	119	0.1	1.0%	0.7%	9,527,000
	Total Indicated – All Deposits	6,026,000	349	<i>n/a</i>	1.6%	3.6%	67,519,000
Inferred	Bellekeno Deposit ^{3&4}	243,000	428	<i>n/a</i>	4.1%	5.1%	3,344,000
	Lucky Queen Deposit ^{3&5}	150,000	571	0.2	1.4%	0.9%	2,754,000
	Flame & Moth Deposit ^{3&6}	348,000	366	0.3	0.5%	4.4%	4,095,000
	Onek ^{3&7}	234,000	134	0.4	1.2%	8.9%	1,008,000
	Birmingham ^{3&8}	220,000	770	0.2	2.1%	2.2%	5,451,000
	Total Inferred	1,027,000	433	<i>n/a</i>	1.8%	4.6%	16,652,000
Historical Resources	Silver King ¹⁰						
	- Proven, probable and indicated	98,998	1,354	<i>n/a</i>	1.6%	0.1%	4,310,000
	- Inferred	22,581	1,456	<i>n/a</i>	0.1%	<i>n/a</i>	1,057,000

Notes:

- 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 the guidelines of NI 43-101.
- 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.
- The Keno Hill Silver District is comprised of five deposits: Bellekeno, Lucky Queen and Flame & Moth, Onek and Birmingham, of which Bellekeno, Lucky Queen and Flame & Moth are incorporated into the current mine plan outlined in the technical report filed on SEDAR dated December 10, 2014 entitled "Updated Preliminary Economic Assessment for the Keno Hill Silver District Project – Phase 2, Yukon, Canada". The mineral resource estimates for the project are supported by (a) disclosure in the news release dated December 23, 2014 entitled "Alexco Updates Positive Preliminary Economic Assessment for Expanded Silver Production from Keno Hill Silver District, Yukon"; and (b) a technical report filed on SEDAR dated December 10, 2014 entitled "Updated Preliminary Economic Assessment for the Keno Hill Silver District Project – Phase 2, Yukon, Canada". The mineral resource estimates for the Flame & Moth deposit is further supported by disclosure in the news release dated April 30, 2015 entitled "Alexco Announces Indicated Silver Resource Estimate Increases of 17% at Flame & Moth and 26% at Birmingham, Resulting in a 10% Increase Overall for Keno Hill Silver District".
- The resource estimates for the Bellekeno deposit are based on a geologic resource estimate having an effective date of September 30, 2012. The Bellekeno indicated resources are as at September 30, 2013, and reflect the geologic resource less estimated subsequent depletion from mine production.
- The mineral resource estimates for the Lucky Queen deposit have an effective date of July 27, 2011.
- The mineral resource estimates for the Flame & Moth deposit have an effective date of April 28, 2015.
- The mineral resource estimates for Onek have an effective date of October 15, 2014.
- The mineral resource estimates for Birmingham have an effective date of January 3, 2017.
- The mineral resource estimate for the Elsa Tailings has an effective date of April 22, 2010, and is supported by the technical report dated June 16, 2010 entitled "Mineral Resource Estimation, Elsa Tailings Project, Yukon, Canada".
- Historical mineral resources for Silver King are supported by disclosure in the news release dated December 23, 2014 entitled "Alexco Updates Positive Preliminary Economic Assessment for Expanded Silver Production from Keno Hill Silver District, Yukon".
- The disclosure regarding the summary of estimated mineral resources for Alexco's mineral properties within the Keno Hill District has been reviewed and approved by Scott Smith, P.Eng., former Bellekeno Mine Manager and a Qualified Person as defined by NI 43-101.

APPENDIX II - Bermingham Resource Estimate by Vein and Vein Margin

Deposit	Zone	Class	Tonnes	Ag (g/t)	Pb (%)	Zn (%)	Au (g/t)	Ag (troy ounces)
Bermingham	Bermingham Vein	Indicated	220,000	432	1.9	1.7	0.13	3,062,000
		Inferred	23,000	583	2.7	2.8	0.16	424,000
	Bermingham Vein Margin	Indicated	152,000	332	1.5	1.5	0.07	1,621,000
		Inferred	26,000	356	1.3	1.7	0.09	303,000
	Bear Vein	Indicated	49,000	2,543	7.5	2.7	0.37	4,017,000
		Inferred	25,000	550	2.9	1.9	0.18	447,000
	Bear Vein Margin	Indicated	99,000	794	3.0	1.3	0.14	2,515,000
		Inferred	43,000	505	2.5	0.7	0.11	699,000
	Bermingham Footwall Vein	Indicated	167,000	657	3.0	1.7	0.16	3,536,000
		Inferred	62,000	1,407	1.3	3.5	0.19	2,815,000
	Bermingham Footwall Vein Margin	Indicated	150,000	430	1.3	1.5	0.06	2,067,000
		Inferred	36,000	442	1.1	1.4	0.09	518,000
	West-Dipper Vein	Indicated	13,000	932	3.4	2.8	0.15	388,000
		Inferred	4,000	1,818	17.4	8.3	0.55	244,000
West-Dipper Vein Margin	Indicated	8,000	421	1.0	1.7	0.06	115,000	
	Inferred	-	-	-	-	-	-	
Total	All Veins and Vein Margins	Indicated	858,000	628	2.4	1.7	0.13	17,321,000
		Inferred	220,000	770	2.1	2.2	0.15	5,450,000

Notes:

1. The effective date of this mineral resource estimate is January 3, 2017.
2. 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.
3. Reported at a contained metal value cut-off grade of CAD \$185.00/t (US\$0.80=C\$1) using consensus long term metal prices (US\$) and recoveries developed for the nearby Bellekeno deposit (Ag US\$20.00/oz, recovery 96%; Pb US\$0.95/lb, recovery 97%; Zn US\$1.00/lb, recovery 88%; Au US\$1,300/oz, recovery 72%).
4. Ag grades capped at 1,500 grams per tonne ("g/t"); Zn capped at 9.5%; Pb capped at 9% for the Bermingham vein.



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5. Ag grades capped at 11,000 g/t, Zn capped at 7% and Pb capped at 20% for the Bear Vein.
6. Ag grades capped at 3,000 g/t, Zn capped at 9% and Pb capped at 30% for the Bermingham Footwall vein.
7. Ag grades capped at 2,000, Zn capped at 12% and Pb capped at 20% for the West Dipper vein.
8. Table numbers may not add up due to rounding.