



## News Release

### Alexco Expands Flame & Moth Indicated Resource to 22.9 Million Ounces of Silver; Resource Grade Increased, Deposit Remains Open

**January 31, 2013 - Alexco Resource Corp. (NYSE-MKT:AXU, TSX:AXR)** today released a new, updated mineral resource estimate for the Flame & Moth discovery within the Keno Hill Silver District in Canada's Yukon Territory, substantially increasing its previously estimated indicated silver resource. Since publishing the initial resource estimate (see news release dated June 28, 2012 entitled "Alexco Announces Initial Resource Estimates for Flame & Moth and Bermingham"), Alexco has drilled 8,752 meters in 43 holes to expand the Flame & Moth indicated silver resource from 11.1 million ounces to 22.9 million ounces, while increasing the indicated resource grade 14% to 516 grams per tonne (gpt), or 16.6 ounces per ton (opt) silver.

The updated resource estimate is summarized as follows:

Deposit	Class <sup>1,2,3</sup>	Tonnes	Silver (gpt)	Gold (gpt)	Lead (%)	Zinc (%)	Silver (Troy ounces)
Flame & Moth <sup>4</sup>	Indicated	1,378,000	516	0.42	1.72	5.70	22,859,000
	Inferred	107,000	313	0.27	0.86	4.21	1,081,000

Notes:

1. The effective date of these mineral resource estimates is January 30, 2013.
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 (0.96 USD = 1 CAD) using consensus long term metal prices and recoveries developed for the nearby Bellekeno deposit (silver US\$24.00/oz, recovery 96%; lead US\$0.85/lb, recovery 97%; zinc US\$0.95/lb, recovery 88%; gold US\$1,400/oz, recovery 72%).
4. Silver grades capped at 3,000 gpt; lead capped at 15%; zinc capped at 20%; gold grades not capped.

The updated resource estimate now incorporates a total of 21,245 meters of drilling that has been completed since 2010, and provides an 82% increase in indicated tonnes to approximately 1.4 million and a 14% increase in indicated resource grade over that of the initial Flame & Moth estimated resource.

Alexco President and Chief Executive Officer Clynt Nauman said, "At nearly 22.9 million ounces of indicated silver resource, the Flame & Moth deposit silver inventory is more than twice as large as the original pre-mining 11.0 million ounce Bellekeno Mine indicated silver resource, which is now in its third year of production. Looked at on the basis of a 500 gpt silver cut-off grade, the Flame & Moth deposit contains more than 500,000 tonnes of 861 gpt silver and 0.6 gpt gold accompanied by more than 9% combined lead and zinc. The thickness of mineralization, the continuity of the deposit, its robust grade and the fact that this deposit comes to surface under approximately 20 meters of gravels opens up a number of potential development options for this important discovery. Furthermore, the deposit remains open down dip and down plunge to the south. As a result of this success, we are initiating engineering and baseline studies on the Flame & Moth deposit. In the meantime, we are

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forging ahead with our plans to commence production from our second and third mines, Onek and Lucky Queen, where we recently received a Quartz Mining License and anticipate award of a Water License in the near future.”

The tables below show the resource estimate sensitivity to varying contained metal value cut-off values and a silver grade cut-off criteria:

Contained Metal Value Cut-off	Class	Tonnes	Silver (gpt)	Gold (gpt)	Lead (%)	Zinc (%)	Silver (Troy ounces)
\$130	Indicated	1,486,000	488	0.40	1.62	5.45	23,299,000
	Inferred	168,000	250	0.25	0.76	3.34	1,350,000
\$185	<b>Indicated</b>	<b>1,378,000</b>	<b>516</b>	<b>0.42</b>	<b>1.72</b>	<b>5.70</b>	<b>22,859,000</b>
	<b>Inferred</b>	<b>107,000</b>	<b>313</b>	<b>0.27</b>	<b>0.86</b>	<b>4.21</b>	<b>1,081,000</b>
\$260	Indicated	1,213,000	561	0.45	1.88	6.05	21,886,000
	Inferred	71,000	379	0.30	0.99	4.91	866,000

Silver Grade Cut-off (gpt)	Class	Tonnes	Silver (gpt)	Gold (gpt)	Lead (%)	Zinc (%)	Silver (Troy ounces)
400	Indicated	710,000	747	0.55	2.38	6.34	17,060,000
	Inferred	28,000	513	0.37	1.10	4.55	469,000
500	Indicated	515,000	861	0.62	2.71	6.42	14,250,000
	Inferred	6,000	750	0.35	2.25	3.45	147,000
600	Indicated	388,000	964	0.68	3.00	6.44	12,015,000
	Inferred	4,000	838	0.37	2.70	4.02	114,000

### Flame & Moth Deposit Geology, 2013 Proposed Work Program

The Flame & Moth resource model comprises the north-northeast striking, moderately southeast dipping Flame Vein that is divided into two segments by the northwest striking Mill Fault. The structure hosting the Flame Vein mineralization is characterized by broad structural zones, ranging between 2 meters and 33 meters in true thickness. The mineralization comprises multiphase quartz and siderite veining up to 11.7 meters true width developed within the host fault structure, and locally contains massive galena, sphalerite, pyrite, and pyrrotite with associated silver sulphosalts, arsenopyrite and chalcopyrite. Gold is locally present at grades up to 6.85 grams per tonne. The



existing deposit has a surface trace of approximately 600 meters and has been drilled to a depth of 350 meters from surface.

The Flame & Moth resource was estimated using Isatis block modeling software in multiple passes in 5 by 5 by 3 meter blocks utilizing inverse distance squared. Grade estimates were based on capped one meter composited assay data. Capping levels were set to 3,000 gpt for silver while lead and zinc were capped at 15% and 20% respectively, for both portions of the Flame Vein. Gold values were not capped. Blocks were classified as indicated mineral resources if at least two drill holes and six composites were found within a 60 by 60 meter search ellipse. All other interpolated blocks were classified as inferred mineral resources.

In 2013, Alexco plans to initiate baseline geotechnical, metallurgical and environmental work as well as preliminary engineering on the Flame & Moth deposit. This work is expected to include studies of future potential production options in context with existing mines and other opportunities in the District.

The Flame & Moth deposit remains open to the south and east, and also westerly up-dip toward surface at the northern extent of existing drilling. Continued exploration drilling is planned in 2013, targeting further expansion of the deposit as well as following up a newly discovered mineralized vein located more than 600 meters to the southwest along a similar structural trend.

#### **Notes**

The Flame & Moth resource estimate update has been complete by David Farrow, P.Geo (BC) of GeoStrat Consulting Services Inc., a Qualified Person as defined by National Instrument 43-101 - *Standards of Disclosure for Mineral Projects* ("NI 43-101") and independent of Alexco for purposes of NI 43-101, based upon data that was reviewed, verified and compiled by Alexco's geologic staff under the supervision of Alan McOnie, Vice President, Exploration for Alexco and also a Qualified Person as defined by NI 43-101. The mineral resource is classified following the CIM Definition Standards for Mineral Resources and Mineral Reserves (December 2005), in accordance with the CIM Estimation of Mineral Resources and Mineral Reserves Best Practice Guidelines and with NI 43-101 guidelines. An NI 43-101 compliant technical report is in the process of being prepared in support of the Flame & Moth mineral resource estimate, which Alexco expects will be filed on SEDAR no later than 45 days from the date hereof.

The disclosure of scientific and technical information about Alexco's mineral projects contained in this news release has also been reviewed and approved by Mr. Farrow and Mr. McOnie.

#### **About Alexco**

Alexco Resource Corp. owns and operates the Bellekeno silver mine, one of several mineral properties held by Alexco which encompass substantially all of the historical Keno Hill Silver District located in Canada's Yukon Territory. Bellekeno, which commenced commercial production at the beginning of calendar year 2011, is Canada's only operating primary silver mine. The Keno Hill Silver District lies within the traditional territory of the First Nation of Na-Cho Nyak Dun who have a fully settled land claim agreement with the Government of Canada and the Yukon, and Alexco operates within the District under a comprehensive cooperation and benefits agreement with the First Nation. Alexco's primary near-term exploration objective is to unlock value in the silver-rich Keno Hill District, and is focused on growth by advancing its promising District properties to development decisions. The Company's goal is to produce 7 million to 10 million ounces of silver annually within the next decade. 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.



## **Keno Hill Silver District History**

Between 1921 and 1988, the Keno Hill Silver District was a world-class silver producer, with more than 217 million ounces of silver produced at average grades of 40.5 ounces per ton silver, 5.6% lead and 3.1% zinc (Yukon Government's Minfile database). These historical production grades would rank Keno Hill in the top 3% by grade of today's global silver producers.

## **Contact**

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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.*