



News Release

Alexco Extends Flame & Moth to More Than 900 Meters in Strike Length; Silver Grades to 28.8 Ounces per Ton over 5.6 Meters

September 18, 2013 - Alexco Resource Corp. (NYSE-MKT:AXU, TSX:AXR) today announced the results of the 2013 surface drilling program targeting extension of the Flame & Moth deposit, centrally located within the Keno Hill Silver District in Canada's Yukon Territory. Drilling has confirmed a further 220-meter extension of the mineralized Flame vein to the southwest of the previously defined silver resource of 22.9 million ounces Indicated and 1.1 million ounces Inferred (see news release dated January 31, 2013 "Alexco Expands Flame & Moth Indicated Resource to 22.9 Million Ounces of Silver; Resource Grade Increased, Deposit Remains Open"). The deposit remains open down plunge to the southwest, and to the northeast. In addition, results from 2013 surface drilling at the Bulldozer prospect approximately one-half kilometer west of the Flame & Moth deposit have returned up to 28.7 ounces per ton (opt) silver over 0.85 meters on a separate but probably related structure.

Alexco President and Chief Executive Officer Clynt Nauman said, "There is no doubt that the Flame & Moth deposit is one of the best discoveries in the Keno Hill Silver District in the last 50 years. It is a potential game changer for Alexco and will materially influence the way this District is developed in the future. The 2013 drilling indicates another opportunity to further significantly increase the resource base in this robust deposit. Although Flame & Moth was originally a blind discovery from the surface, the silver, lead, zinc and gold deposit and associated mineralized structure can now be traced for almost a kilometer along strike. The mineralization exhibits true widths ranging from approximately 0.5 meters to more than 11 meters, averaging approximately four meters, with grades between 400 grams per tonne (gpt) to more than 1,400 gpt silver depending on cutoff, remains open, and is located adjacent to our existing infrastructure and mill. Furthermore, the newly defined Bulldozer discovery approximately one-half kilometer to the west of Flame & Moth indicates the presence of a locally mineralized NNE-SSW trending corridor that is prospective over two kilometers in the immediate Christal Lake area and is interpreted to extend a further six kilometers northeast to the Sadie Ladue deposit."

Highlights

Final 2013 exploration drill results for the Flame and Bulldozer prospects include the following significant composite or individual assay intervals (above 30 gpt silver):

Flame Southwest Lightning Zone

- K-13-0504 intersected mineralized vein material over 5.56 meters true width from 327.64 meters with a composite assay of 987 gpt (28.8 opt) silver, 0.38 gpt gold; including 0.62 meters true width from 330.67 meters with an assay of 2,414 gpt (70.4 opt) silver, 0.55 gpt gold.
- K-13-0506 intersected mineralized vein material over 4.33 meters true width from 418.85 meters with a composite assay of 436 gpt (12.7 opt) silver; including 0.66 meters true width from 418.85 meters with an assay of 1,980 gpt (57.8 opt) silver.
- K-13-0505 intersected mineralized vein material over 6.42 meters true width from 340.37 meters with a composite assay of 150 gpt (4.4 opt) silver, 0.2 gpt gold; including 0.85 meters true width from 344.15 meters with an assay of 752 gpt (21.9 opt) silver, 0.46 gpt gold.

Head Office

T. 604 633 4888

Alexco Resource Corp.
200 Granville Street, Suite 1150
Vancouver, BC V6C 1S4
Canada

F. 604 633 4887



Bulldozer Vein

- K-13-0494 intersected mineralized vein material over 0.85 meters true width from 186.88 meters with a composite assay of 985 gpt (28.7 opt) silver, 0.36 gpt gold; including 0.25 meters true width from 187.07 meters with an assay of 2,640 gpt (77 opt) silver 0.33 gpt gold.

2013 Flame & Moth Geology and Updates

The 2013 surface exploration program comprised 13 drill holes for a total of 2,829 meters in the area centered on the Flame & Moth deposit.

Three diamond drill holes for a total of 1,257 meters completed on the southwest extension of the Lightning zone demonstrate that the mineralized zone extends at least 220 meters further along strike and more than 290 meters down plunge from the nearest existing drill hole. This results in a total strike length in excess of 900 meters to the known extent of the mineralization in the Flame vein. The deposit remains open further down plunge to the southwest while the mineral controlling structure is known to extend and be open to the northeast and at depth.

In the 2013 Lightning zone extension drill holes, the vein maintains consistent true thicknesses of between 4.33 and 6.42 meters with silver grades to 28.8 opt over 5.56 meters true thickness, and demonstrates the potential to significantly increase the resource base of this robust deposit.

Additional drilling of four holes for 493 meters was also completed in the very shallow upper part of the Christal zone. These holes indicate a local weakening of the mineralization in the upper 60 meters although the structure is still present coming to the subsurface very close to the existing District mill. Interestingly, it may be this local weakening of mineralization in an area of locally shallow overburden that resulted in this deposit remaining undiscovered over the decades. One further drill hole was completed for 86 meters and confirmed the southwest extension of the Moth vein in the hangingwall section of the Mill Fault.

At the nearby Bulldozer prospect a further five holes were completed for 1,042 meters. These intercepted a significant structure that is in places well mineralized and demonstrates that the vein discovered in 2012 has an orientation similar to the Flame vein, confirming it to represent a separate structure. A mineralized intercept of 0.85 meters true width with a composite assay of 28.7 opt was obtained, making this structure a high priority future exploration target.

Taken together, results from the 2013 Flame drilling when combined with the Bulldozer discovery indicate the possible presence of a broad, locally mineralized structural corridor at least one-half kilometer wide extending at least two kilometers along a NNE-SSW trend, possibly centered on the Flame & Moth discovery. This corridor requires significantly more drilling, and remains the top priority exploration target in the district.

Updated composite assay tables, along with a drill hole location map and a long section plot, for 2013 drill holes completed at the Flame & Moth prospect are appended to this release, and are also available for review on the Company's website at www.alexcoresource.com.

The 2013 exploration drill program and sampling protocol has been reviewed, verified and compiled by Alexco's geologic staff under the supervision of Alan McOnie, 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 were shipped to ALS Minerals Labs at Whitehorse, Yukon Territory for preparation, with fire assay and multi-element ICP analyses completed at the ALS Minerals facility in North Vancouver, British



Columbia. 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. McOnie.

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 Keno Hill Silver District located in Canada's Yukon Territory. Bellekeno, which commenced commercial production at the beginning of calendar year 2011, was Canada's only operating primary silver mine from 2011 to 2013. Alexco recently announced a suspension of operations at Bellekeno in order to decrease costs and reposition the District for long-term, sustainable operations. 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. 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

Clynton R. Nauman, President and Chief Executive Officer
Phone: (604) 633-4888
Email: info@alexcoresource.com

Please visit the Alexco website at www.alexcoresource.com

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 of exploration and development activities; actual results of mining activities; actual results of consulting activities; actual results 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.



APPENDICES

Table 1

Hole	Easting (m)	Northing (m)	Elevation (m)	Azimuth	Dip	Length (m)
K-12-466A*	483525.93	7086589.64	873.50	270	-50	48
K-13-0494	483184.47	7086409.25	876.25	280	-56	209
K-13-0495	484002.28	7086768.58	909.25	264	-50	114
K-13-0496	484012.98	7086803.67	921.02	290	-48	113
K-13-0497	483184.28	7086410.30	876.28	290	-64.5	20
K-13-0498	484014.26	7086803.41	921.10	285	-76	152
K-13-0499	483185.69	7086413.43	875.99	290	-65	263
K-13-0500	484039.83	7086846.41	929.17	295	-45	113
K-13-0501	483192.91	7086433.22	876.36	317	-50	203
K-13-0502	483797.03	7086767.16	896.59	317	-60	86
K-13-0503	483149.81	7086327.09	879.11	312	-65	299
K-13-0504	483925.46	7086230.61	930.12	305	-45	383
K-13-0505	483929.90	7086229.93	930.60	285	-50	383
K-13-0506	483929.19	7086229.47	930.54	248	-51.5	491

*Extension

Map Coordinate Projection UTM NAD83 Z8



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Table 2

	Hole	From (m)	To (m)	Interval (m)	True Width (m)	Ag (g/t)	Ag (Oz/tonne)	Ag (Oz/ton)	Au (g/t)	Pb (%)	Zn (%)
Flame Lightning Zone SW	K-13-0504	289.34	289.67	0.33		216.0	6.94	6.30	-0.01	0.76	1.17
	K-13-0504	327.64	333.75	6.11	5.56	986.7	31.72	28.78	0.38	1.38	6.26
	including	330.67	331.35	0.68	0.62	2414.0	77.61	70.41	0.55	3.55	8.81
	K-13-0504	340.12	340.57	0.45	0.41	127.0	4.08	3.70	0.17	0.42	4.65
	K-13-0504	345.33	345.82	0.49	0.45	93.8	3.02	2.74	0.01	0.10	0.54
	K-13-0504	352.40	352.77	0.37	0.34	39.5	1.27	1.15	0.01	0.03	0.08
	K-13-0504	356.00	356.46	0.46	0.42	75.2	2.42	2.19	0.35	0.18	4.22
	K-13-0505	16.58	17.34	0.76		229.5	7.38	6.69	0.09	5.94	0.20
	K-13-0505	340.37	347.42	7.05	6.42	149.6	4.81	4.36	0.20	0.13	1.14
	including	344.15	345.08	0.93	0.85	752.3	24.19	21.94	0.46	0.33	7.05
	K-13-0506	22.11	22.35	0.24		90.8	2.92	2.65	0.12	1.11	0.19
	K-13-0506	414.91	416.19	1.28	1.04	48.2	1.55	1.41	0.11	0.06	0.49
	K-13-0506	418.85	424.19	5.34	4.33	436.0	14.02	12.72	0.08	0.18	3.53
	including	418.85	419.66	0.81	0.66	1980.0	63.66	57.75	0.30	0.75	11.60
	K-13-0506	458.25	458.50	0.25		104.0	3.34	3.03	0.81	0.31	0.72
Flame Upper Christal Zone	K-13-0496	61.50	62.38	0.88	0.80	97.4	3.13	2.84	0.03	1.28	2.33
	K-13-0498	70.25	70.54	0.29	0.18	99.3	3.19	2.90	0.17	0.06	0.31
	K-13-0498	78.31	78.57	0.26	0.16	46.4	1.49	1.35	0.08	0.02	0.00
	K-13-0498	82.10	83.70	1.60	0.98	57.4	1.85	1.68	0.10	0.87	1.00
	K-13-0498	124.94	128.00	3.06	1.90	59.5	1.91	1.74	0.01	0.05	0.26
	K-13-0500	67.38	74.41	7.03	6.61	80.9	2.60	2.36	0.08	0.51	1.40
	K-13-0500	77.42	78.25	0.83	0.78	38.5	1.24	1.12	0.13	0.24	1.38
	K-13-0500	98.13	98.81	0.68	0.64	65.6	2.11	1.91	0.06	0.08	0.34
Moth	K-13-0502	56.30	56.80	0.50	0.48	96.9	3.11	2.83	0.05	0.33	9.80
Bulldozer	K-13-0494	186.88	188.19	1.31	0.85	985.4	31.68	28.74	0.36	12.62	12.82
	including	187.07	187.45	0.38	0.25	2640.0	84.88	77.00	0.33	36.04	12.80
	K-13-0501	185.83	186.60	0.77	0.49	177.9	5.72	5.19	1.17	0.61	7.30
	K-13-0503	161.76	162.18	0.42	0.22	31.6	1.02	0.92	-0.01	0.98	0.16
	K-13-0503	176.64	177.09	0.45	0.24	37.6	1.21	1.10	0.02	0.06	0.92
	K-13-0503	264.04	266.00	1.96	1.04	36.0	1.16	1.05	0.10	0.02	0.36

Figure 1 Longitudinal Section Flame & Moth Prospect showing greater than 30 gpt Ag composite assay intervals (viewed to the northwest)

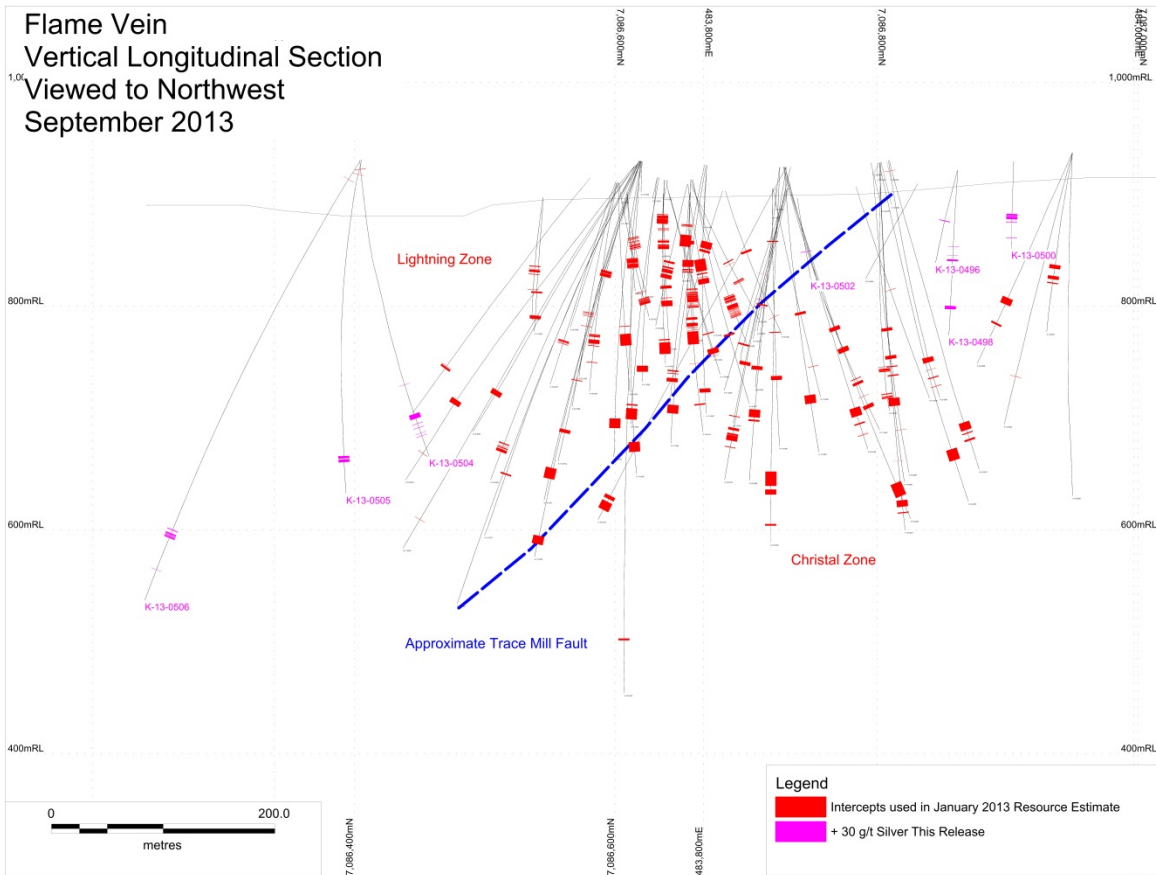


Figure 2 Location of Drill Holes at Flame & Moth Deposit Showing all composite intercepts > 30 gpt Ag

