VANCOUVER, BRITISH COLUMBIA--(Marketwired - Sep 13, 2016) - Alexco Resource Corp. (TSX:AXR)(NYSE MKT:AXU) ("Alexco" or the "Company") today announced interim results from an ongoing diamond drill program in the Bermingham deposit area of the Keno Hill Silver District in Canada's Yukon Territory.

Initial assay results have been received from 18 of 36 holes completed to date. Drilling has confirmed and expanded the Bermingham high grade zone (the "Bear Zone"), including a recent intercept of 7.5 meters ("m") true width of 2,715 grams per tonne ("g/t") (87.3 ounces per tonne ("oz/t")) silver (including 2.4m (true width) of 6,391 g/t (205.5 oz/t) silver) from hole K-16-0608 drilled approximately 100m down plunge from the deepest intercept reported in 2015. Overall, all other composite intercepts in the high grade Bear Zone now range between 504 g/t to 7,462 g/t silver over composited true thicknesses ranging from 1.3m to 6.4m.

Together with the high grade intercepts from 2014 and 2015, the 2016 drilling has so far extended the high grade silver-bearing Bear Zone over at least 250m of plunge length and a plunge width of approximately 40m. The zone averages approximately 4.0m true width, is locally more than 7.0m thick, and remains open to depth and northeasterly along strike of the productive structure(s).

Alexco Chief Executive Officer Clynt Nauman commented, "Early results from the 2016 exploration program underscore the materiality and importance of this discovery to the future of Keno Hill. Grades from initial 2016 drill holes are impressive, ranging from 0.5 kilogram to more than 6.0 kilograms per tonne silver over sizeable true widths. The style, tenor and continuity of the mineralization, plus the continuing thickness of the high grade zone as we drill deeper (but still less than 400 meters from surface) are most encouraging. In addition, the emerging vein geometry, including the discovery of mineralized parallel (east dipping) and conjugate (west dipping) veins, reflects a structural and mineralization pattern similar to the largest deposits in the district, including the immediately adjacent historical Hector-Calumet deposit. We are very interested to see how the Bear Zone develops as we chase it to depth and along trend of the various mineralized structures that are now being recognized."

Bermingham Drill Composite Assay Interval Highlights (Refer to Table 2 for complete results)

- K-16-0608: intercepted two veins:

the Bear Vein over a true width of 7.49m from 388.87m with a composite assay of 2,715 g/t (87.3 oz/t), including a 2.39m true width from 391.05m at 6,391 g/t (205.5 oz/t) silver that includes within it 0.87m true width from 391.05m at 7,739 g/t (248.8 oz/t) silver and 0.97m true width from 394.41m at 8,584 g/t (276.0 oz/t) silver, and the Bermingham Vein over 1.00m true width from 363.57m with a composite assay of 1,243 g/t (40.0 oz/t) silver, including 0.21m true width from 363.57m at 5,790 g/t (186.2 oz/t) silver.

- K-16-0605 : intercepted the Bear Vein over a true width of 3.98m from 276.70m with a composite assay of 2,524 g/t (81.2 oz/t), including 0.08m true width from 277.90m at 24,401 g/t (784.5 oz/t) silver; 0.48m true width from 282.68m at 8,310 g/t (267.2 oz/t) silver, and 0.31m true width from 285.18m at 12,597 g/t (405.0 oz/t) silver.
- K-16-0602 : intercepted the Bear Vein over a true width of 2.93m from 276.65m with a composite assay of 3,265 g/t (105.0 oz/t), including 0.87m true width from 278.62m at 10,897 g/t (350.3 oz/t) silver.
- K-16-0584 : intercepted two veins:

the Bear Vein over a true width of 4.95m from 317.00m with a composite assay of 1,574 g/t (50.6 oz/t), including 1.20m true width from 322.30m at 5,311 g/t (170.8 oz/t) silver, and the Bermingham Vein over 2.02 m true width from 300.20m with a composite assay of 935 g/t (30.1 oz/t) silver, including 0.83m true width from 300.20m at 2,121 g/t (68.2 oz/t) silver.

- K-16-0599 : intercepted the Bear Vein over a true width of 1.32m from 413.10m with a composite assay of 2,814 g/t (95.0 oz/t) silver.
- K-15-0587 : intercepted a newly recognized west dipping vein set over a true width of 3.52m from 286.25m with a composite assay of 1,171 g/t (37.7 oz/t) silver, including 1.93m true width from 286.25m at 2,008 g/t (64.6 oz/t) silver.

The 2016 follow up Bermingham drill program has been expanded from an initial 8,000 meter program to approximately 15,500 meters totaling approximately 45 holes, of which 36 have been completed. Two adjacent zones (the Etta and the Arctic Zones) in the Bermingham area have a current silver resource estimate (not including the Bear Zone) of 5.2 million ounces indicated (377,000 tonnes with average grade of 430 g/t) (see news release dated April 29, 2015, entitled "Alexco Announces Indicated Silver Resource Estimate Increases of 17% at Flame & Moth and 37% at Bermingham, Resulting in a 10% Increase Overall for Keno Hill Silver District"). The historical Bermingham deposit is located on Galena Hill approximately one kilometer southwest of the historical Hector-Calumet mine, and approximately five kilometers east of the Flame & Moth deposit and Keno District Mill. The Hector-Calumet's historical production was 96 million ounces of silver at a reported average grade of approximately 1,214 g/t (39 oz/t).

The recently discovered Bear Zone lies approximately 50m to the northeast of the existing Arctic Zone resource, in a position controlled by a flexure in the Bermingham Footwall and Bermingham vein-fault structures located stratigraphically above the

inferred unique stratigraphic and structural setting occupied by the adjacent Hector-Calumet mine. Continuing exploration in 2016 is targeted to follow the high grade mineralization down plunge into this projected stratigraphy. In terms of mineralogy, the Bear Zone is 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. Structural zones within which the mineralization is located are up to 7.5m wide, and generally flanked by "shatter or fault damage zones" that may be several meters wide. The mineralized structures exhibit textures indicative of prolific fluid flow, hydro-brecciation, and fluid boiling during several pulses of mineralization and fault movement.

Beyond continuing geology work, remaining work in the Bear Zone and general Bermingham area in 2016 includes completion of hydrological well drilling, geotechnical investigation and metallurgical testing as well as waste rock characterization studies to support permitting activity. In addition, initial wire framing to support a new resource estimation for the Bear Zone is underway and is targeted for inclusion in an updated Preliminary Economic Assessment in the fourth quarter of 2016.

Details of the drill holes are shown in Table 1. Composite assay grades and intervals, calculated at a 30 g/t silver cutoff restricted to include a maximum of two meters unmineralized dilution, used to identify the mineralized zones area shown in Table 2. The locations of the drill holes are shown in Figures 1 and 2 and are available for review on the Company's website at www.alexcoresource.com.

Notes

The 2016 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 ("NI 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 through ALS Minerals Labs at Whitehorse, Yukon for preparation, fire assay, multi-element ICP and overlimit 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. 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 44 oz/t silver, 6.7% lead and 4% zinc (Cathro 2006). These historical production grades would rank Keno Hill in the top 3% by grade of today's global silver producers.

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.

APPENDICES

Figure 1

Drill Hole Locations: http://media3.marketwire.com/docs/APPENDICES%201.pdf

Figure 2

Vertical Long Section Showing the Interim 2016 Bear Zone Composite Silver Intercepts: http://media3.marketwire.com/docs/APPENDICES%202.pdf

Table 1

Details of 2016 Bermingham Drill Holes Completed to August 31, 2016

Map Projection UTM NAD83 Zone 8

Hole	Easting (m)	Northing (m)	Elevation (m)	Length (m)	Surface Azimuth	Surface Dip	Date Started	Date Completed
K-16-0584	479182.99	7086717.59	1350.94	388.40	298	-69.0	01/05/2016	08/06/2016
K-16-0585	479180.04	7086842.08	1339.82	266.00	272	-64.0	01/06/2016	06/06/2016
K-16-0586	479179.36	7086842.15	1339.74	270.00	275.5	-50.0	06/06/2016	11/06/2016
K-16-0587	479184.05	7086718.27	1351.00	383.85	313	-69.0	09/06/2016	16/06/2016
K-16-0589	479184.31	7086718.59	1351.18	311.00	317	-61.0	17/06/2016	22/06/2016
K-16-0590	479181.17	7086841.20	1340.30	231.00	302	-63.0	15/06/2016	19/06/2016
K-16-0591	479180.75	7086841.26	1340.30	200.00	302	-54.0	19/06/2016	22/06/2016
K-16-0592	479184.70	7086718.13	1350.96	369.70	317	-70.0	22/06/2016	29/06/2016
K-16-0593	479179.91	7086840.50	1340.32	202.00	289	-51.0	22/06/2016	25/06/2016
K-16-0594	479115.58	7086848.90	1336.62	176.50	305	-59.0	25/06/2016	28/06/2016
K-16-0597	479224.41	7086846.95	1341.18	248.00	313	-57.0	30/06/2016	05/07/2016
K-16-0598	479224.87	7086846.54	1341.05	296.00	313	-63.0	05/07/2016	11/07/2016
K-16-0599	479239.14	7086601.52	1363.35	443.50	306	-54.0	08/07/2016	16/07/2016
K-16-0600	479183.53	7086717.88	1351.10	329.00	327	-59.0	11/07/2016	17/07/2016
K-16-0602	479183.53	7086717.70	1351.11	314.00	325	-57.0	17/07/2016	23/07/2016
K-16-0603	479183.74	7086719.08	1351.05	315.00	315	-53.5	23/07/2016	29/07/2016
K-16-0605	479183.81	7086719.10	1351.12	314.00	333	-53.0	29/07/2016	04/08/2016
K-16-0608	479157.35	7086674.56	1353.70	476.00	291	-70.0	04/08/2016	12/08/2016

Table 2

Assay Composites Calculated for 2016 Bermingham Drill Holes with Assays Completed to August 31, 2016

Using 30 g/t cut-off with a maximum of two meters unmineralized internal dilution

Hole	From (m)	To (m)	Interval (m)	True Width (m)	Ag (g/t)	Ag (oz/t)	Pb (%)	Zn (%)	Au (g/t)	Vein
K-16-0584	300.20	303.06	2.86	2.02	935	30.08	2.84	0.82	0.29	Bermingham
Including	*300.20*	*300.20*	*1.18*	*0.83*	*2,121*	*68.19*	*4.63*	*0.39*	*0.30*	
	308.00	312.54	4.54	3.21	126	4.06	0.65	0.23	0.02	
	317.00	324.00	7.00	4.95	1,574	50.61	8.29	1.02	0.14	Bear
Including	*319.05*	*320.00*	*0.95*	*0.67*	*1,100*	*35.37*	*14.20*	*0.63*	*0.07*	
and	*322.30*	*324.00*	*1.70*	*1.20*	*5,311*	*170.77*	*15.80*	*2.53*	*0.47*	
	342.25	344.65	2.40	1.70	163	5.25	0.11	1.01	0.04	
K-16-0585	228.69	233.32	4.63	2.66	281	9.05	0.83	0.30	0.06	Bear
Including	*228.69*	*229.26*	*0.57*	*0.33*	*1,450*	*46.62*	*0.92*	*2.00*	*0.11*	

K-16-0586	225.00	225.90	0.90	0.69	53	1.70	0.07	0.22	1.80	Bermingham
	237.17	238.05	0.88	0.67	44	1.41	0.13	0.75	0.09	Bear
	244.50	245.25	0.75	0.57	49	1.58	0.17	1.14	0.07	
K-16-0587	286.25	290.55	4.30	3.52	1,171	37.66	6.77	1.58	0.13	West Dip
Including	*286.25*	*288.60*	*2.35*	*1.93*	*2,008*	*64.57*	*11.84*	*2.30*	*0.19*	
	304.27	304.50	0.23	0.19	47	1.52	0.18	0.41	0.07	
	308.00	308.80	0.80	0.66	44	1.41	0.26	0.97	0.02	
K-16-0589	282.80	285.45	2.65	0.91	58	1.85	0.15	0.09	0.10	Bear
	288.45	291.35	2.90	0.99	49	1.58	0.17	0.10	0.24	
K-16-0590	209.31	214.03	4.72	4.13	679	21.82	0.83	3.27	0.07	Bear
Including	*213.15*	*213.64*	*0.49*	*0.43*	*4,750*	*152.72*	*4.93*	*10.25*	*0.41*	
K-16-0591	190.42	191.54	1.12	0.92	113	3.65	0.20	1.61	0.01	Bermingham / Bear

Hole	From (m)	To (m)	Interval (m)	True Width (m)	Ag (g/t)	Ag (oz/t)	Pb (%)	Zn (%)	Au (g/t)	Vein
K-16-0592	273.12	274.40	1.28	0.91	59	1.90	0.12	0.11	0.08	
	277.75	278.43	0.68	0.48	209	6.72	0.44	0.76	0.03	Bermingham
	320.77	320.93	0.16	0.11	67	2.14	0.04	2.07	0.01	
	335.30	336.61	1.31	0.93	709	22.80	0.16	5.56	0.12	Bear
Including	*335.30*	*336.00*	*0.70*	*0.49*	*1,125*	*36.17*	*0.25*	*0.21*	*0.21*	
K-16-0593	186.26	187.00	0.74	0.25	93	2.98	1.49	1.23	0.20	Bermingham
K-16-0594	133.66	136.67	3.01	2.68	422	13.56	0.43	0.34	0.06	Bermingham
Including	*136.20*	*136.67*	*0.47*	*0.42*	*2,480*	*79.74*	*1.91*	*0.21*	*0.19*	
K-16-0597	221.00	222.93	1.93	0.97	34	1.08	0.21	0.26	0.01	Bermingham
K-16-0598	244.50	245.00	0.50	0.21	43	1.38	0.11	0.15	0.01	
	256.02	257.00	0.98	0.41	278	8.92	0.83	0.77	0.02	Bear
	261.66	262.25	0.59	0.25	68	2.17	0.12	0.10	0.06	
K-16-0599	413.10	414.87	1.77	1.32	2,814	90.49	18.92	0.30	0.37	Bear
Including	*413.10*	*414.87*	*1.62*	*1.20*	*3,075*	*98.87*	*20.67*	*0.32*	*0.40*	
K-16-0600	288.10	295.15	7.05	2.98	70	2.24	0.28	0.15	0.01	
	297.40	302.50	5.10	2.16	504	16.22	1.10	0.99	0.08	Bear
Including	*301.05*	*301.30*	*0.25*	*0.11*	*7,900*	*253.99*	*18.55*	*5.12*	*1.1*	
K-16-0602	276.65	280.80	4.15	2.93	3,265	104.97	5.42	3.11	0.41	Bear
Including	*278.62*	*280.15*	*1.23*	*0.87*	*10,897*	*350.34*	*17.74*	*10.23*	*1.26*	
	285.62	288.60	2.98	0.26	139	4.47	1.67	0.20	0.04	
	292.10	294.06	1.96	0.17	31	0.99	0.11	0.21	0.15	
	296.10	298.20	2.10	0.18	33	1.06	0.14	0.27	0.25	
K-16-0603	278.00	284.07	6.07	2.57	128	4.12	0.31	0.63	0.07	Bermingham
Including	*280.32*	*280.46*	*0.14*	*0.06*	*1,410*	*45.33*	*3.60*	*3.75*	*0.15*	

Hole	From (m)	To (m)	Interval (m)	True Width (m)	Ag (g/t)	Ag (oz/t)	Pb (%)	Zn (%)	Au (g/t)	Vein
K-16-0605	270.94	272.71	1.77	0.75	246	7.91	0.46	1.13	0.06	
	276.70	288.33	11.63	3.98	2524	81.15	5.38	1.70	0.18	Bear
Including	*277.90*	*278.10*	*0.20*	*0.08*	*24,401*	*784.52*	*1.51*	*2.76*	*2.5*	
and	*282.68*	*284.08*	*1.40*	*0.48*	*8,310*	*267.18*	*15.24*	*10.70*	*0.66*	
and	*285.18*	*286.09*	*0.91*	*0.31*	*12,597*	*405.02*	*36.07*	*1.05*	*0.69*	
K-16-0608	363.57	365.58	2.01	1.00	1,243	39.97	4.15	3.78	0.26	Bermingham
Including	*363.57*	*363.98*	*0.41*	*0.21*	*5,790*	*186.16*	*17.95*	*7.18*	*0.94*	
	388.87	406.59	17.72	7.49	2,715	87.29	12.24	3.07	0.35	Bear
Including	*391.05*	*396.70*	*5.65*	*2.39*	*6,391*	*205.48*	*33.42*	*4.87*	*0.61*	
that includes	*391.05*	*393.11*	*2.06*	*0.87*	*7,739*	*248.82*	*61.81*	*2.83*	*0.78*	
and includes	*394.41*	*396.70*	*2.29*	*0.97*	*8,584*	*275.98*	*24.75*	*9.40*	*0.78*	
and	*400.49*	*402.02*	*1.53*	*0.65*	*5,226*	*168.02*	*9.46*	*6.09*	*0.73*	
and	*404.18*	*404.69*	*0.51*	*0.22*	*1,090*	*35.04*	*1.17*	*0.10*	*0.2*	
and	*406.24*	*406.59*	*0.35*	*0.15*	*3,440*	*110.60*	*14.75*	*0.17*	*0.48*	

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