



BUILDING CANADA'S ONLY  
**PRIMARY SILVER**  
PRODUCER



ALEXCO

April 2021

**121 Mining Americas Conference**

TSX/NYSE American **AXU** | [www.alexcoresource.com](http://www.alexcoresource.com)

# FORWARD-LOOKING STATEMENTS

This presentation contains forward-looking statements within the meaning of the United States Private Securities Litigation Reform Act of 1995 and forward-looking information within the meaning of applicable Canadian securities laws (together, “forward-looking statements”) concerning Alexco’s business, including but not limited to statements with respect to results of the independent pre-feasibility study on Alexco’s Keno Hill Silver Project in Yukon, Canada (the “PFS”); future mineral exploration including the estimation of mineral reserves and mineral resources and 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 development and operational expenses; projected operational and economic metrics; the success of exploration and development activities; the potential upside and growth in respect of certain deposits comprising the Keno Hill Silver Project; anticipated permitting time lines; anticipated installation of certain infrastructure; projected equipment and production capacity; and potential capital, revenue 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 presentation, 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 assumptions, projections and estimates in the PFS 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. Alexco does not intend, and does not assume any obligation, to update these forward-looking statements, except as required by applicable law. To the extent that such information may constitute a financial outlook within the meaning of applicable securities laws, such information has been approved by management and is provided for the purposes of providing information relating to management and Alexco’s current expectations and plans. Readers are cautioned that any such financial outlook information contained herein should not be used for purposes other than for which it is disclosed herein.

The PFS was compiled by Mining Plus with contributions from a team of Qualified Persons as defined by National Instrument 43-101 – Standards of Disclosure for Mineral Projects (“NI 43-101”) as follows: Zach Allwright, P.Eng. of Mining Plus, Adrian Churcher, P.Eng. of Mining Plus, Hassan Ghaffari, P.Eng. of TetraTech, Paul Hughes, PhD, P.Eng. of Mining Plus, Gilles Arseneau, Ph.D., P.Geo. of SRK Canada Inc., Cliff Revering, P. Eng. of SRK Canada Inc. All mineral resources in the PFS 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 NI 43-101.

The disclosure in this presentation of scientific and technical information regarding exploration has been prepared by or under the supervision of Alan McOnie, FAusIMM, Alexco’s Vice President, Exploration, while that regarding mine development and operations has been prepared by or under the supervision of Neil Chambers, P.Eng., Chief Mine Engineer, each of whom is a Qualified Person as defined by NI 43-101 and has approved the disclosure herein. The technical information in this document was reviewed by Zach Allwright, P.Eng. and Adrian Churcher, P.Eng. both of Mining Plus, Gilles Arseneau, Ph.D., P.Geo. and Cliff Revering, Ph.D., P. Geo. both of SRK Canada Inc. and Hassan Ghaffari, P.Eng. of Tetra Tech, each of whom is a Qualified Person and has approved the disclosure herein.

The Endnotes found on page 16 of this presentation are an integral part of this presentation.

# TECHNICAL DISCLOSURE CAUTIONARY STATEMENT

The material scientific and technical information in respect of Alexco's Keno Hill Silver District Project in this presentation, unless otherwise indicated, is based upon information contained in the technical report entitled "NI 43-101 Technical Report Prefeasibility Study of the Keno Hill Silver District Project, Yukon Territory, Canada", as amended February 13, 2020. Readers are encouraged to read the PFS, which is available under the Company's profile on SEDAR, for detailed information concerning the Keno Hill Silver District. All disclosure contained in this presentation regarding the mineral reserves and mineral resource estimates and economic analysis on the property is fully qualified by the full disclosure contained in the PFS.

A production decision which is made without a feasibility study of mineral reserves demonstrating economic and technical viability carries additional potential risks which include, but are not limited to, the risk that additional detailed work may be necessary with respect to mine design and mining schedules, metallurgical flow sheets and process plant designs, and the noted inherent risks pertaining to the inclusion of approximately 2% inferred mineral resources in the mine plan.

This presentation has been prepared in accordance with the requirements of the securities laws in effect in Canada, which differ from the requirements of United States securities laws. The terms "mineral reserve", "proven mineral reserve" and "probable mineral reserve" are Canadian mining terms as defined in accordance with NI 43-101 and the Canadian Institute of Mining, Metallurgy and Petroleum (the "CIM") - CIM Definition Standards for Mineral Resources and Mineral Reserves, adopted by the CIM Council, as amended. These definitions differ materially from the definitions in SEC Industry Guide 7 ("SEC Industry Guide 7") under the United States Securities Act of 1933, as amended. Under SEC Industry Guide 7 standards, a "final" or "bankable" feasibility study is required to report reserves, the three-year historical average price is used in any reserve or cash flow analysis to designate reserves, and the primary environmental analysis or report must be filed with the appropriate governmental authority. In addition, the terms "mineral resource", "measured mineral resource", "indicated mineral resource" and "inferred mineral resource" are defined in and required to be disclosed by NI 43-101; however, these terms are not defined terms under SEC Industry Guide 7 and are normally not permitted to be used in reports and registration statements filed with the SEC. Investors are cautioned not to assume that all or any part of a mineral deposit in these categories will ever be converted into SEC Industry Guide 7 reserves. Under Canadian rules, inferred mineral resources can only be used in economic studies as provided under NI 43-101. Investors are cautioned not to assume that all or any part of an inferred mineral resource is economically or legally mineable. An "inferred mineral resource" is that part of a mineral resource for which quantity and grade or quality are estimated on the basis of limited geological evidence and sampling. Geological evidence is sufficient to imply but not verify geological and grade or quality continuity. An inferred mineral resource has a lower level of confidence than that applying to an indicated mineral resource and must not be converted to a mineral reserve. It is reasonably expected that the majority of inferred mineral resources could be upgraded to indicated mineral resources with continued exploration. Disclosure of "contained ounces" in a resource is permitted disclosure under Canadian regulations; however, the SEC normally only permits issuers to report mineralization that does not constitute "reserves" by SEC Industry Guide 7 standards as in place tonnage and grade without reference to unit measures. Accordingly, information contained in this presentation regarding descriptions of the Corporation's mineral deposits may not be comparable to similar information made public by U.S. companies subject to the reporting and disclosure requirements under the United States federal securities laws and the rules and regulations thereunder, including SEC Industry Guide 7.

## KENO HILL SILVER DISTRICT

# CANADA'S ONLY PURE SILVER MINE - PRODUCTION IN 2021



## One of World's Highest Grade Silver Mines

- Average LOM ~805 g/t Ag / 1,133 g/t AgEq <sup>(1)</sup>
- +75% revenues from Silver
- Best in class Silver production grade

## Tier 1 Jurisdiction & Great Infrastructure

- Connected to the Yukon hydro power grid
- Year-round highway access, all season airport
- Concentrates shipped year-round through deep water, ice-free port

## Excellent Growth Potential

- Updated mineral reserve estimate forthcoming
- Track record of mineral resource growth through exploration
- +25,000 m drill program in 2021

See Slide 16 for endnotes

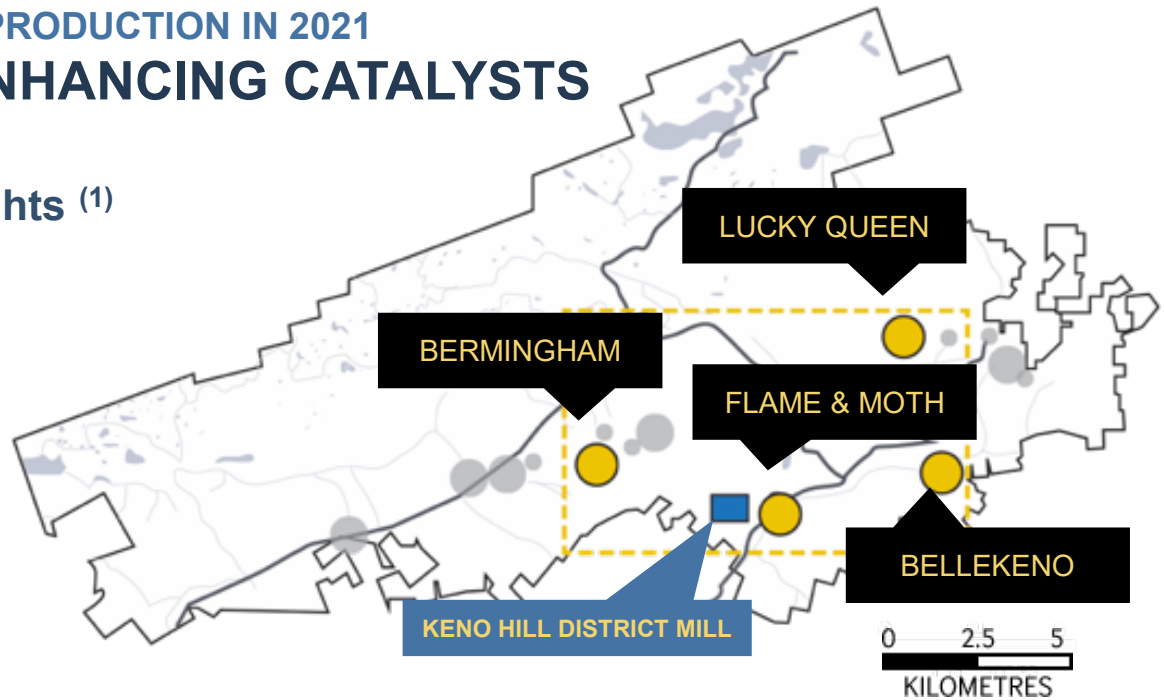


# ON TRACK FOR COMMERCIAL PRODUCTION IN 2021

## NEAR-TERM VALUE ENHANCING CATALYSTS

### Starter Project – Key Highlights <sup>(1)</sup>

- 4 deposits
- 8 year-mine life
- +30 Moz Probable Mineral Reserves @ ~805 g/t Ag <sup>(2)</sup>
- +74 Moz Indicated Mineral Resources <sup>(2)</sup>
- Average 4 Moz Ag/yr



### RAMP UP UNDERWAY

- District mill recommissioning started November 2020
- First concentrate shipment achieved January 2021
- U/G development at Birmingham and Flame & Moth ongoing

### OPTIMIZATION

- Updated Mineral Reserve estimate in Q2 2021
- Targeting longer mine life & improved economics
- Reach 400 tpd mill rate in Q3/Q4 2021

### BEST IS YET TO COME

- Vast and prospective land package
- Only ~15% explored
- Following up on excellent 2020 results

See Slide 16 for endnotes

## KENO HILL SILVER DISTRICT COVID-19 – OUR RESPONSE



Registered nurse on staff at Keno Hill at all times

Separate transportation for Yukon employees and employees from other jurisdictions



Pre-screening health check and pre-clearance upon arrival

Separate accommodations for Yukon employees and employees from other jurisdictions

No non-essential visitors at camp and no non-essential travel to remote communities



Work conducted remotely whenever possible

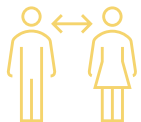
Only Yukon residents allowed in dining room and recreation areas



Mandatory handwashing + sanitizer use in common areas; sanitation products provided

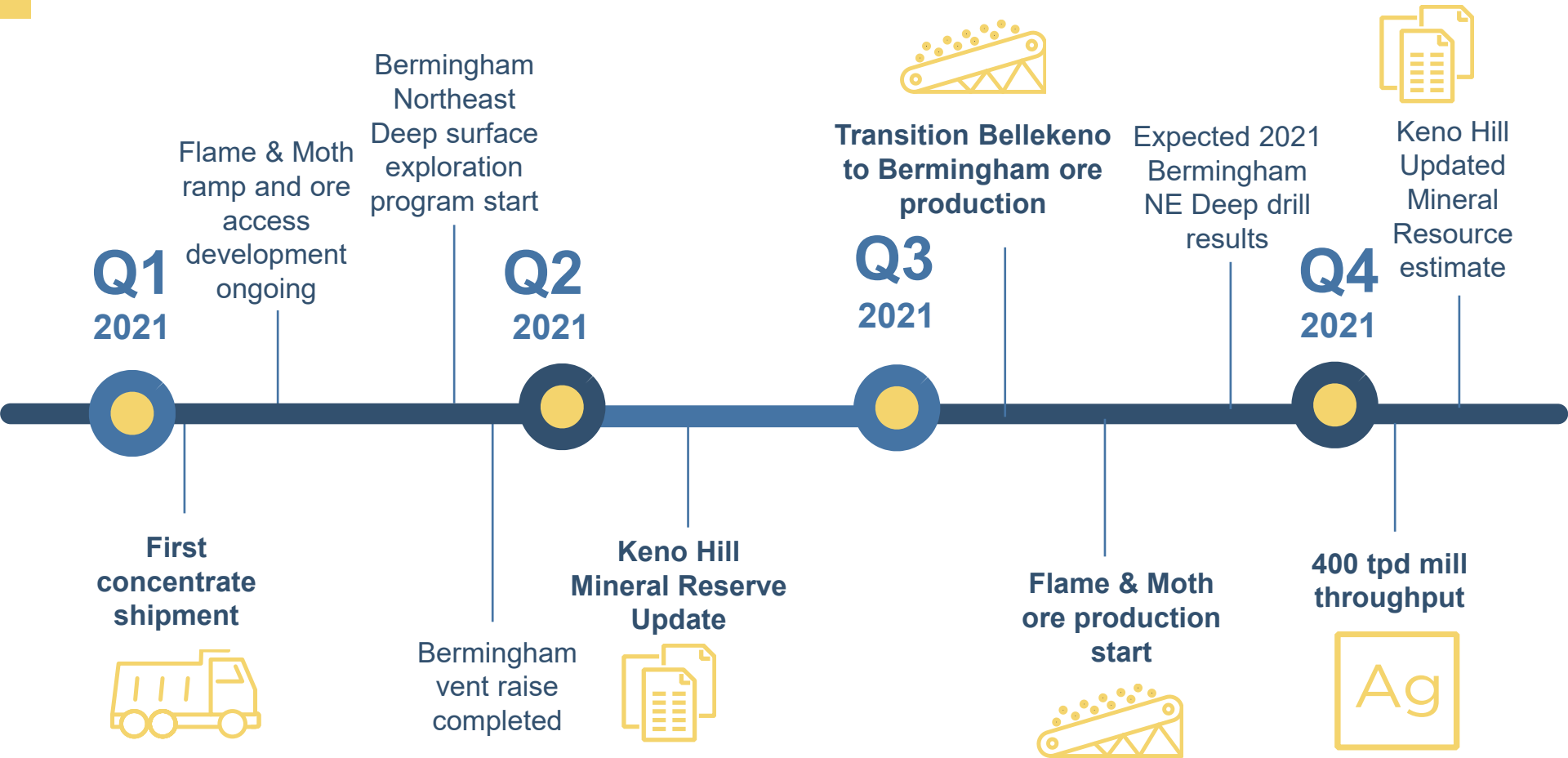
Increased disinfecting frequency in accommodations and dining hall

Isolation buildings, protocols, and contingency plans established for case management



Physical distancing maintained + limited # of employees per vehicle

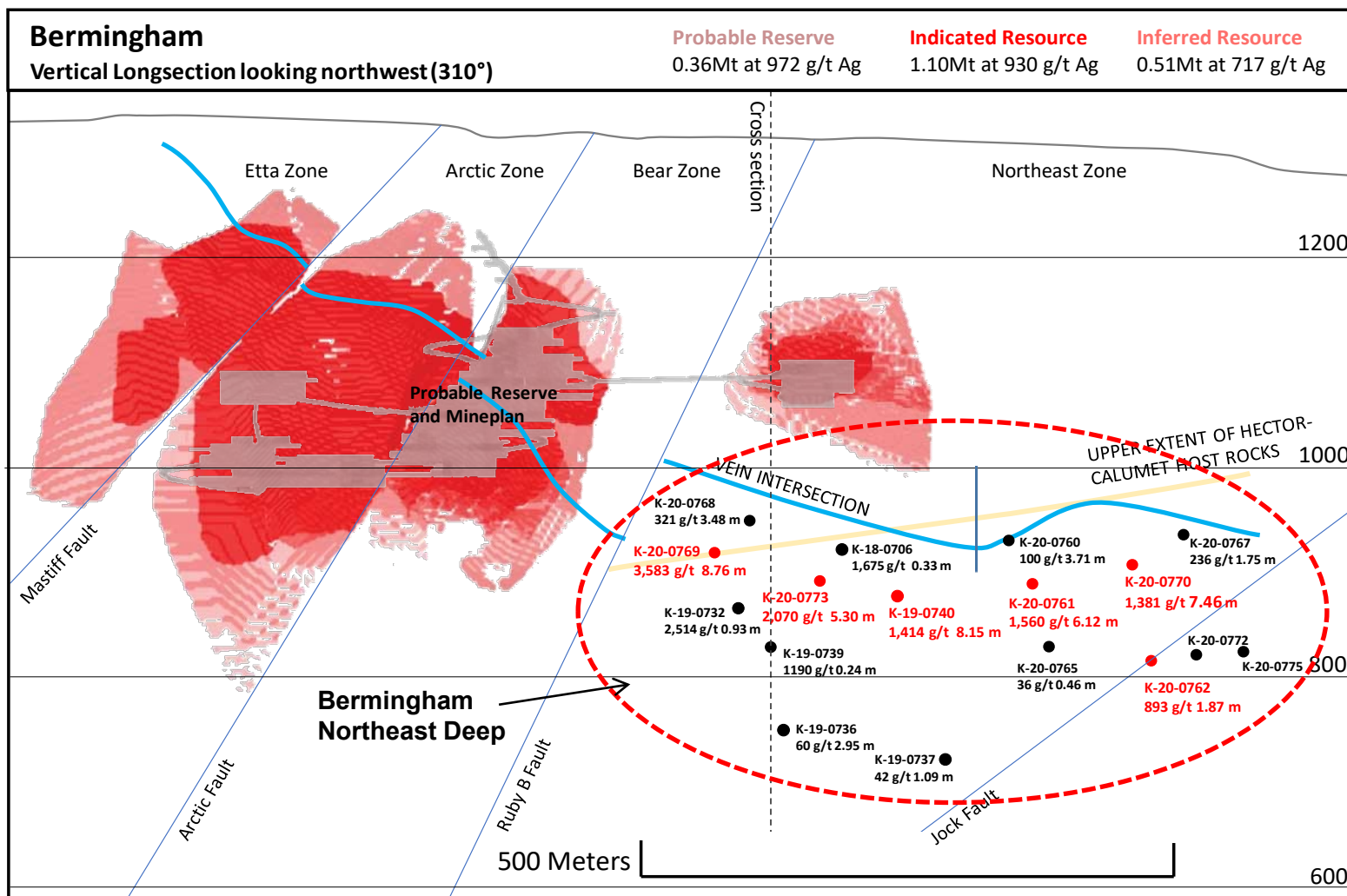
# KENO HILL SILVER DISTRICT ROADMAP TO 4 MOZ PER YEAR SILVER – 2021 CATALYSTS



See Slide 16 for endnotes

# STRATEGICALLY SIGNIFICANT DRILL PROGRAM IN 2021

## BERMINGHAM NORTHEAST DEEP ZONE (1)



- 2019 intercepts
- 2020 intercepts

See Slide 16 for endnotes



# LONG TERM STRATEGIC GROWTH

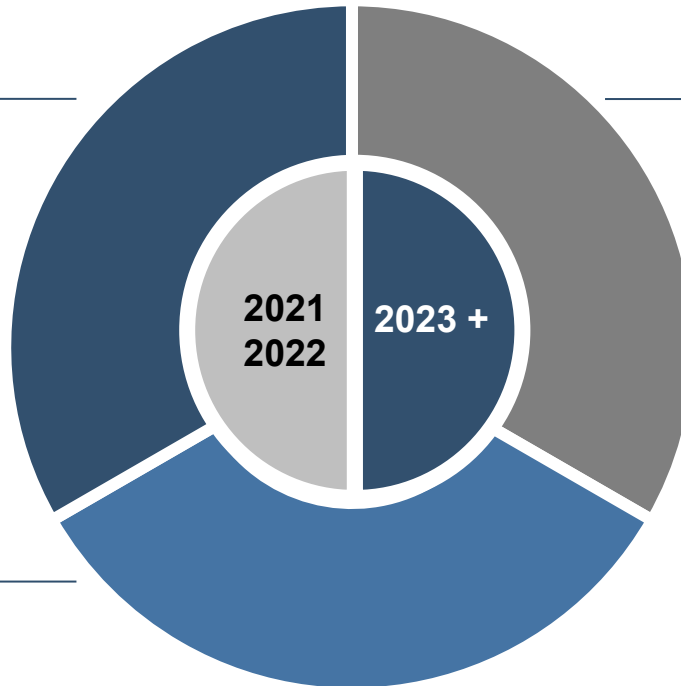
## A High Grade, Pure Silver Asset With Significant Upside

### Operations Optimization

- Reduce dilution & increase productivities to improve already robust economics
- Updated Mineral Reserve Estimate in Q2 2021

### Brownfield Exploration

- Only ~15% of historic, prospective project area explored in detail
- Updated Mineral Resource Estimate to include Birmingham Deep in Q4 2021



### External Growth Options

#### Risk Diversification

- Evaluate options to move beyond single mine status
  - Diversification in platform
- Disciplined approach to review
  - Focused on accretive opportunities consistent with corporate strengths

## COMMITTED TO RESPONSIBLE MINING



### PEOPLE

- **130 Keno Hill employees onboarded** at March 31, 2021 with **+80%** of workforce based in Yukon + BC
- **Business and JV Contracting Agreements in place** with First Nation of Na-Cho Nyak Dun Development Corporation
- **Strong safety record** and rigorous COVID-19 protocols



### ENVIRONMENT

- **Reclaiming legacy environmental impacts** in Keno Hill Silver District in partnership with Federal government and First Nations
- **+\$20M contributed** to remediate and develop closure plan for historic liabilities
- **Dry stack tailings;** no tailings dam



### COMMUNITY

- **Comprehensive Cooperation & Benefits Agreement** with First Nation of Na-Cho Nyak Dun
- **Legacy Fund and Scholarship** contributions
- **Strong community relationships** with Mayo and Keno City

## Developing ESG Reporting Strategy

# APPENDICES



## APPENDIX I

# CAPITAL STRUCTURE (April 2021)

<b>CAPITAL STRUCTURE</b> (as at April 08, 2021)	
Issued & Outstanding (basic)	142.1 M
Fully Diluted	153.4 M
Warrants (Exercise price \$3.50, Aug 25, 2025 expiry)	2.0 M

<b>TRADING</b> (as at April 5, 2021)	<b>USA</b>	<b>Canada</b>
90-day Av. Daily Volume	1,284,532	273,840
52-week range	US\$1.46 – \$3.50	C\$2.04 – \$4.65
Market Cap	US\$398.8 M	C\$495.3 M

<b>FINANCIAL POSITION</b> (as at December 31, 2020)	
Unrestricted Cash <sup>(1)</sup>	C\$23.7 M <sup>(2) (3)</sup>
Restricted Cash	C\$2.9 M
<b>Credit Facility</b>	
Indicative Term Sheet (undrawn)	US\$ 15 M

<b>TOP SHAREHOLDERS</b>	
Van Eck Associates	5.3%
Jupiter Asset Management	5.0%
<b>Insiders</b>	<b>4.6%</b>
Private Investor	3.0%
Global X Management	2.1%
SSI Management	2.0%

<b>ANALYST COVERAGE</b>	
Alliance Global Partners	Jake Sekelsky
Canaccord Genuity	Kevin MacKenzie
Cantor Fitzgerald	Mike Kozak
Cormark Securities	Nicolas Dion
R.F. Lafferty Inc.	Mike Niehuser

See Slide 16 for endnotes

## APPENDIX II

# KENO HILL – SUMMARY OF MINERAL RESERVES & RESOURCES

## MINERAL RESERVES

Deposit	Category	Tonnes	Ag (g/t)	Pb (%)	Zn (%)	Au (g/t)	Contained Metal (000 oz Ag)	Contained Metal (000 oz Au)	Contained Metal (M lbs Pb)	Contained Metal (M lbs Zn)
Bellekeno	Proven	-	-	-	-	-	-	-	-	-
	Probable	40,109	843.1	11.79	6.31	-	1,087	-	10	6
Lucky Queen	Proven	-	-	-	-	-	-	-	-	-
	Probable	70,717	1,244.39	2.63	1.38	0.12	2,829	-	4	2
Flame and Moth	Proven	-	-	-	-	-	-	-	-	-
	Probable	704,211	671.95	2.71	5.73	0.49	15,214	11	42	89
Birmingham	Proven	-	-	-	-	-	-	-	-	-
	Probable	362,343	972.02	2.59	1.32	0.13	11,324	2	21	11
<b>Total</b>	<b>Proven</b>	-	-	-	-	-	-	-	-	-
	<b>Probable</b>	<b>1,177,380</b>	<b>804.51</b>	<b>2.98</b>	<b>4.13</b>	<b>0.34</b>	<b>30,454</b>	<b>13</b>	<b>77</b>	<b>107</b>

- All mineral reserves for this table have the effective date of March 28, 2019 and 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.
- All numbers have been rounded to reflect the relative accuracy of the estimates.
- The Bellekeno, Lucky Queen, Flame & Moth and Birmingham deposits are incorporated into the current mine plan supported by disclosure in the news release dated March 28, 2019 entitled "Alexco Announces Positive Pre-Feasibility Study for Expanded Silver Production at Keno Hill Silver District" and the technical report filed on SEDAR dated February 13, 2020 with an effective date of March 28, 2019.
- The disclosure regarding the summary of probable mineral reserves for Alexco's mineral properties within the Keno Hill District has been reviewed and approved by Neil Chambers, P.Eng., Mine Superintendent and Qualified Person as defined by NI 43-101.

## MINERAL RESOURCES

Category <sup>1,2,3,7,8</sup>	Deposit	Tonnes	Ag (g/t)	Au (g/t)	Pb (%)	Zn (%)	Contained Ag (oz)
Indicated	Bellekeno <sup>2,4&amp;5</sup>	262,000	585	n/a	3.5%	5.3%	4,928,000
	Lucky Queen <sup>2,4&amp;6</sup>	132,300	1,167	0.2	2.4%	1.6%	4,964,000
	Flame & Moth <sup>2,4&amp;6</sup>	1,679,000	498	0.4	1.9%	5.3%	26,883,000
	Onek <sup>4&amp;6</sup>	700,200	191	0.6	1.2%	11.9%	4,300,000
	Birmingham <sup>2,4&amp;5</sup>	1,102,300	930	0.1	2.4%	1.7%	32,959,000
<b>Total Indicated Sub-Surface Deposits</b>		<b>3,875,800</b>	<b>594</b>	<b>0.34</b>	<b>2.0%</b>	<b>5.3%</b>	<b>74,034,000</b>
Elsa Historical Tailings Resource <sup>7</sup>		2,490,000	119	0.1	1.0%	0.7%	9,527,000
<b>Total Indicated All Deposits</b>		<b>6,365,800</b>	<b>408</b>	<b>0.3</b>	<b>1.5%</b>	<b>3.3%</b>	<b>83,561,000</b>
Inferred	Bellekeno <sup>4&amp;5</sup>	243,000	428	n/a	4.1%	5.1%	3,344,000
	Lucky Queen <sup>4&amp;6</sup>	257,900	473	0.1	1.0%	0.8%	3,922,000
	Flame & Moth <sup>4&amp;6</sup>	365,200	356	0.3	0.5%	4.3%	4,180,000
	Onek <sup>4&amp;6</sup>	285,100	118	0.4	1.2%	8.3%	1,082,000
	Birmingham <sup>4&amp;5</sup>	509,400	717	0.2	1.7%	1.5%	11,743,000
<b>Total Inferred</b>		<b>1,660,600</b>	<b>455</b>	<b>0.2</b>	<b>1.6%</b>	<b>3.7%</b>	<b>24,271,000</b>

- All mineral resources, except the Elsa Historical Tailings Resource, are classified following the CIM Definition Standards for Mineral Resources and Mineral Reserves (May 2014) of NI 43-101.
- Indicated mineral resources are inclusive of mineral reserves estimates.
- Mineral resources are not all mineral reserves and do not have demonstrated economic viability. All numbers have been rounded to reflect the relative accuracy of the estimates.
- The mineral resource estimates comprising Bellekeno, Lucky Queen and Flame & Moth, Onek and Birmingham are supported by disclosure in the news release dated March 28, 2019 entitled "Alexco Announces Positive Pre-Feasibility Study for Expanded Silver Production at Keno Hill Silver District" and the technical report filed on SEDAR dated February 14, 2020 with an effective date of March 28, 2019.
- The mineral resource estimate for the Birmingham and Bellekeno deposits are based on mineral resource estimates having an effective date of March 28, 2019. The Bellekeno deposit has been depleted to reflect all mine production from the Bellekeno mine to date.
- The mineral resource estimate for the Lucky Queen, Flame & Moth and Onek deposits 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". The Elsa Historical Tailings Resource is classified following the CIM Definition Standards for Mineral Resources and Mineral Reserves (December 2005) of NI 43-101.
- 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 Dr. Gilles Arseneau, P. Geo. (Lucky Queen, Flame & Moth, and Onek deposits), Cliff Revering, P. Eng. (Birmingham deposit), and David Farrow, P. Geo. PrSciNat (Bellekeno deposit), Qualified Persons as defined by NI 43-101.

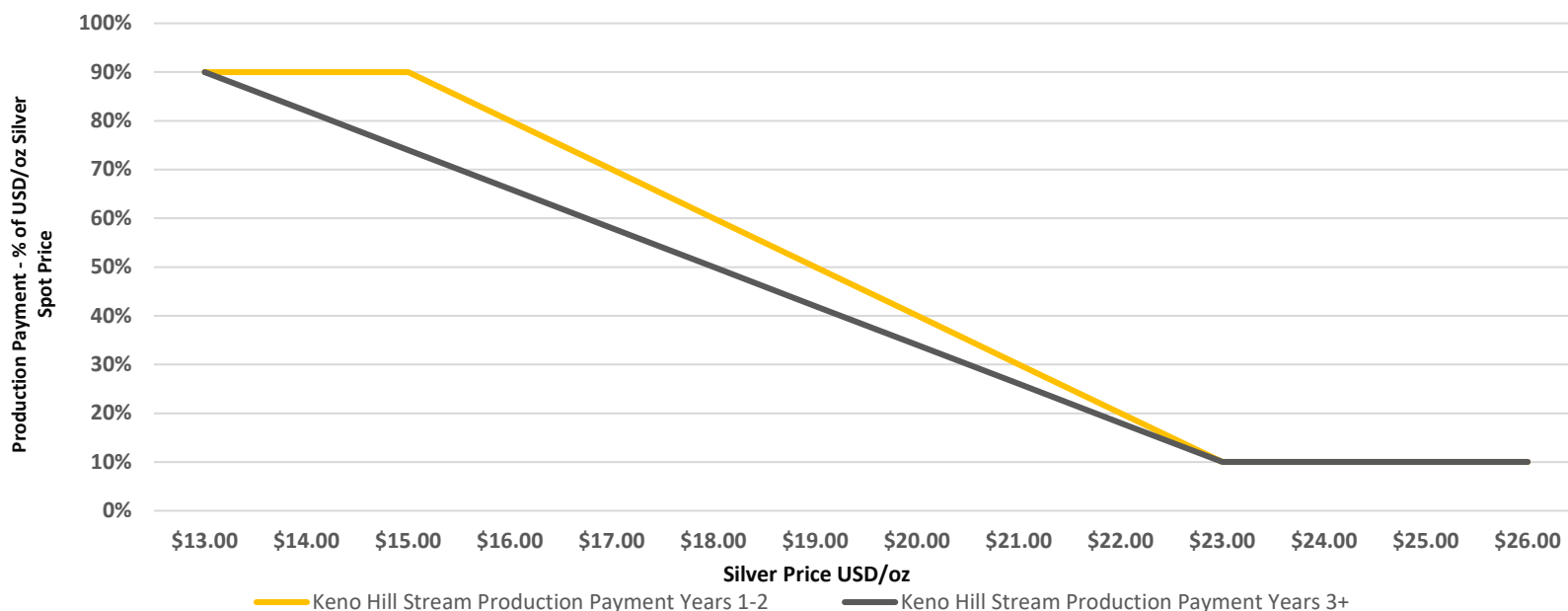


## APPENDIX III

# WHEATON SILVER STREAM AMENDMENT (AUGUST 2020)

Alexco and WPM amended the Silver Purchase Agreement (originally dated October 2, 2008) by virtue of which AXU will sell to Wheaton 25% of silver production from Keno Hill and Wheaton will use the following formula to pay for each ounce of silver:

Until the earlier of: (i) two years from first shipment of concentrate; and (ii) delivery of 2 million silver ounces to Wheaton	$90 - ((\text{Market Price} - 15) * 10)$ ; and	} Subject to a maximum of 90% and minimum of 10%
Thereafter:	$90 - ((\text{Market Price} - 13) * 8)$ ,	



## APPENDIX IV

# ELSA RECLAMATION & DEVELOPMENT COMPANY (“ERDC”)

- Keno Hill Silver District operated for ~100 years under various owners until 2001.
- In 2006, ERDC (100% Alexco-owned) entered into agreement with Government of Canada. ERDC is responsible for care & maintenance + closure of historical mines - with government funding provided - to address historical liabilities.

### Reclamation Obligation

- As a public-private partnership with Governments of Canada, Yukon Government, and First Nation of Na-Cho Nyak Dun, ERDC will develop, permit and implement a Reclamation Plan for historical mining activities and associated liabilities.
- Alexco has contributed \$10M to a Reclamation Trust that will go towards implementation of the District Wide Reclamation Plan.
- The Reclamation Plan completed the environmental assessment process in February 2020; a final decision document was issued in July 2020.
- ERDC has entered the Yukon Water Board’s water licensing process to authorize closure activities.
- After licensing, ERDC will submit to Crown-Indigenous Relations and Northern Affairs Canada for approval and funding in order to proceed into implementation. The current estimate for the total capital and operating cost for the reclamation is ~\$100M over a 30-year period.

### Development Opportunity

- The agreement allows Alexco to undertake exploration and development of the Keno Hill Silver District.

## ENDNOTES

### Slide 4

Note 1: See slide 2 for PFS cautionary statement and Appendix II for a full view of the Mineral Reserves and Resources Summary Table associated with the Keno Hill Silver District.

### Slide 5

Note 1: See slide 2 for PFS cautionary statement  
Note 2: Indicated Mineral Resources include Probable Mineral Reserves. See slide 2 for PFS cautionary statement and Appendix II for a full view of the Mineral Reserves and Resources Summary Table associated with the Keno Hill Silver District.

### Slide 8

Note 1: See slide 2 for PFS cautionary notes. See news release dated September 8, 2019 entitled “Alexco Intersects 8.1 Meters (true width) at Composite Grade of 1,414 Grams Per Tonne (45.5 oz/t) Silver at “Birmingham Deep” Target”, and news release dated January 19, 2021 entitled “Alexco Extends Birmingham High-Grade Mineralization at Depth, Intersects 3,583 g/t Silver over 8.76 meters True Width and Other Significant Results”.  
Note 2: See Appendix II for a full view of the Mineral Reserve and Resources Summary Table associated with the Keno Hill Silver District.

### Slide 12

Note 1: Unrestricted cash does not include proceeds from January 19, 2021 NSR Royalty sale, and January 28, 2021 financing.  
Note 2: On January 19, 2021, Alexco announced the sale of its NSR Royalty in Golden Predator Exploration Ltd.’s Brewery Creek Project to Wheaton Precious Metals Corp. for total cash consideration of \$4.5 M.  
Note 3: On January 28, 2021, Alexco closed a flow-through equity financing for gross proceeds of \$11.7 M.