Arizona Sonoran Reports Positive Nuton™ Technologies Extraction Rates on Cactus Primary Sulphides

- Initial testing with Nuton demonstrating optionality to continue scaling the asset beyond the base case Pre-feasibility Study ("PFS") parameters
    - Primary sulphides, currently excluded from the PEA and pending PFS, comprise 25% of total mineral resource (total: 4.9 blbs of inferred and 1.6 blbs of indicated copper resources)
- Copper extraction for columns range from 61% to 82% on primary sulphides with an optimized targeted copper extraction for a life of asset blend of 80%
    - Extraction rates improve when blending both primary and secondary sulphides
- Excellent results from unoptimized preliminary leach conditions with further optimization planned in a potential second phase of the test work program
- Value impact for ASCU shareholders will inform the next phase of the work program and commercial framework with Nuton

Casa Grande, AZ and Toronto, ON, June 5, 2023 – Arizona Sonoran Copper Company Inc. (TSX:ASCU | OTCQX:ASCUF) ("ASCU" or the "Company") an emerging US-based copper developer and near-term producer, today reports positive preliminary column leach metallurgical extraction rates using the Nuton™ technologies as part of the Phase 1 testing program with Nuton LLC, a Rio Tinto venture. Primary sulphide extraction ranges from 61% to 82% based on 5 columns, including 2 early cycle columns returning 83% and 61%, 2 mid-cycle columns above 70% and 1 with lower extraction based on biotite content. Nuton is currently reassessing the additives for this low extraction column to address future biotite exposure, which accounts for approximately 1-2% of the Cactus West deposit in the primary zone. A total of 13 ongoing columns are approximately 75-150 days through their 300-day leach cycle and include samples from the sulphide, both primary and enriched (secondary sulphide) zones from both Cactus and Parks/Salyer deposits, as well as from the tailing facility, all of which are situated on wholly-owned private land in Pinal County, Arizona.

Nuton offers a portfolio of proprietary copper leach related technologies and capabilities, developed by Rio Tinto to deliver increased copper recovery and leading environmental performance. In December, samples were sent to the Nuton testing lab to begin column leach testing, following initial mineralogical analysis and associated performance modelling of ASCU material. The columns are leaching under a range of conditions and additive combinations with a view towards identifying the

ideal Nuton offering for further test work and commercial deployment. With ASCU input, the metallurgical programs are overseen by the Nuton technical team and have been provided Qualified Person confirmation by Samuel Engineering.

George Ogilvie, Arizona Sonoran Copper Company President and CEO commented, "We are extremely encouraged that the initial column testing is consistent with the initial modelling presented by the Nuton team. While our onsite teams remain focused on delivering a robust PFS based on our oxides and enriched material, Rio Tinto's Nuton™ technologies present ASCU with future optionality for continued scaling of our assets from our currently excluded primary resource. We look forward to continuing to explore the leaching opportunity with Nuton, which would utilize a traditional SX/EW plant for the primary sulfides, and has a cleaner footprint than a concentrator, lower GHG emissions and reduced water consumption requirements."

Adam Burley, CEO of Nuton LLC commented, "Nuton has a wide range of potential use cases. At Cactus and Parks/Salyer we are encouraged by the potential of Nuton to unlock copper resources, currently not in the Company's mine plan. This would increase resource utilization and enable a larger, more economically and environmentally efficient operation."

Sample Location and Preparation

Samples were prepared and composited from enriched and primary material from drill holes SE-02, ECP-019, ECW-011, SE-10 and SE-12 (see **FIGURES 1 and 2** below) from the Cactus East, West and Parks/Salyer deposits. Additional samples from the historic Cactus tailings were also collected for the Phase 1 metallurgical test work program. Chemical and mineralogical analyses of each column sample were completed by Nuton to obtain a full chemical and mineralogical understanding of the material introduced to each individual column test. Chemical and mineralogical assay data was used to predict column test results. The mineralogy of the samples is shown below in **FIGURE 3**.

FIGURE 1: Cactus Mine Project Map of Sample Locations

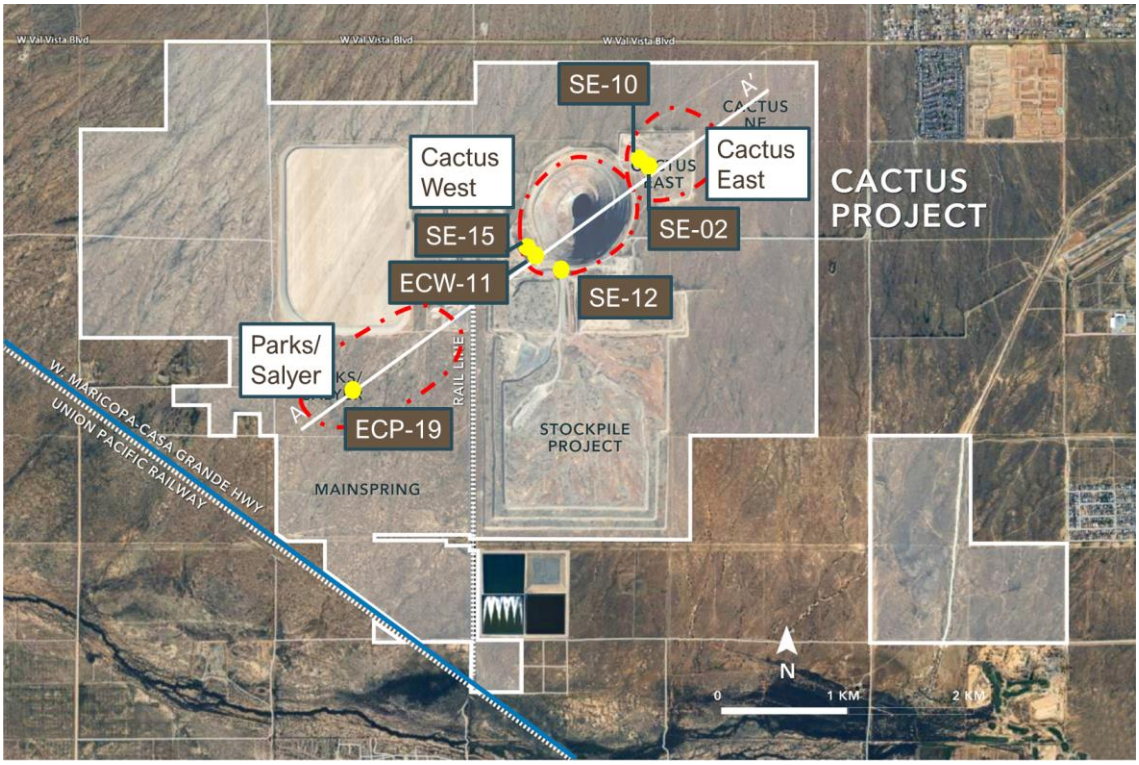


FIGURE 2: Cactus Mine Project Long Section of Sample Locations

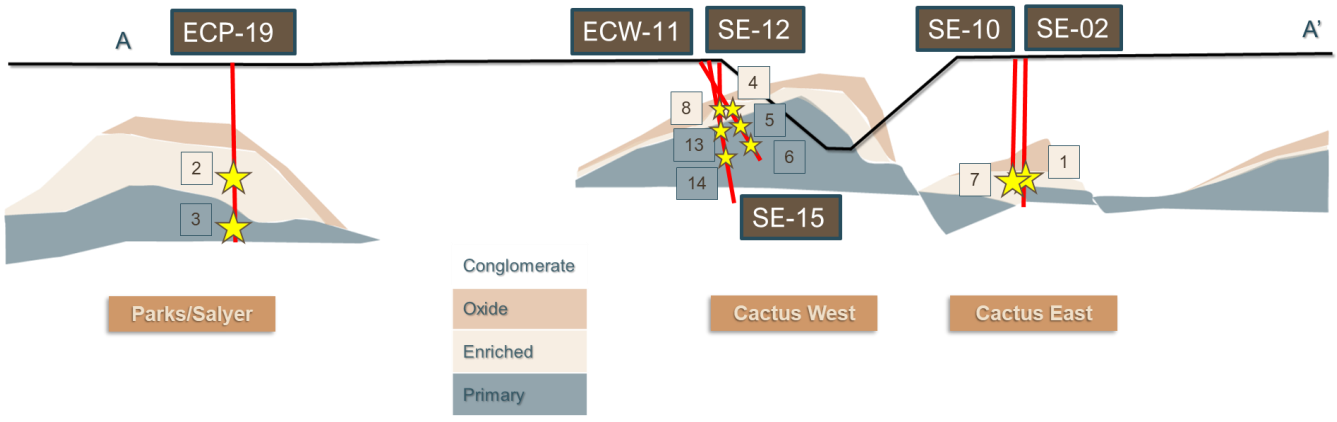
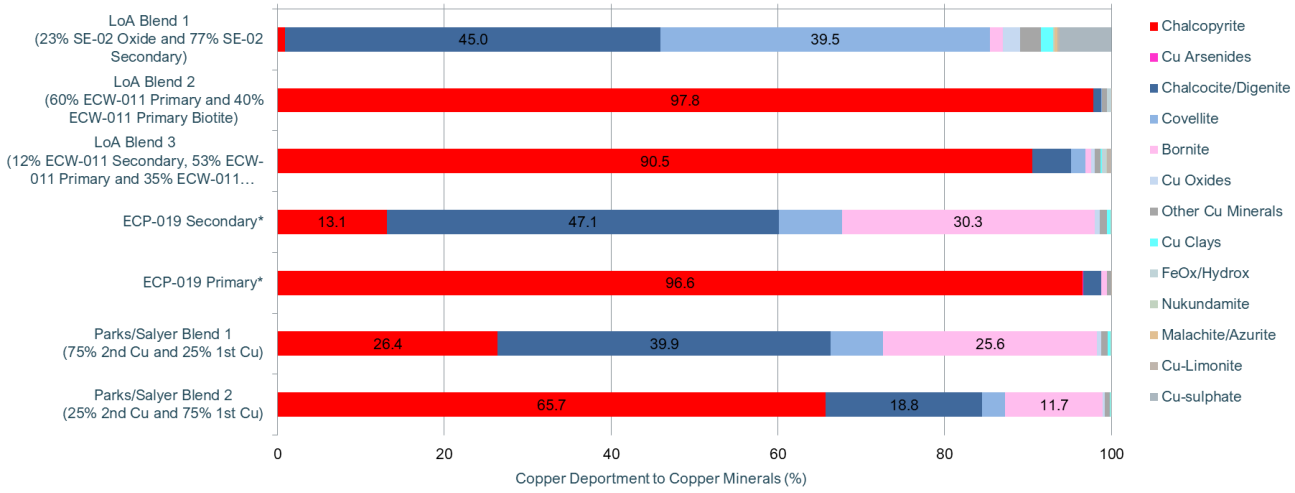


FIGURE 3: Copper Mineralogy of Samples



Overview of Nuton Flowsheet

The Nuton flowsheet is a conventional crushed and agglomerated feed, bio-heap leach flow sheet, for heap leaching of copper sulphide minerals, however, it includes the addition of catalytic and other reagents, as well as a bacterial growth and inoculation facility.

TABLE 1 below and **FIGURES 4-6** illustrate results from preliminary extraction rates ranging from 75 days up to 150 days of direct column leaching. Testing is ongoing.

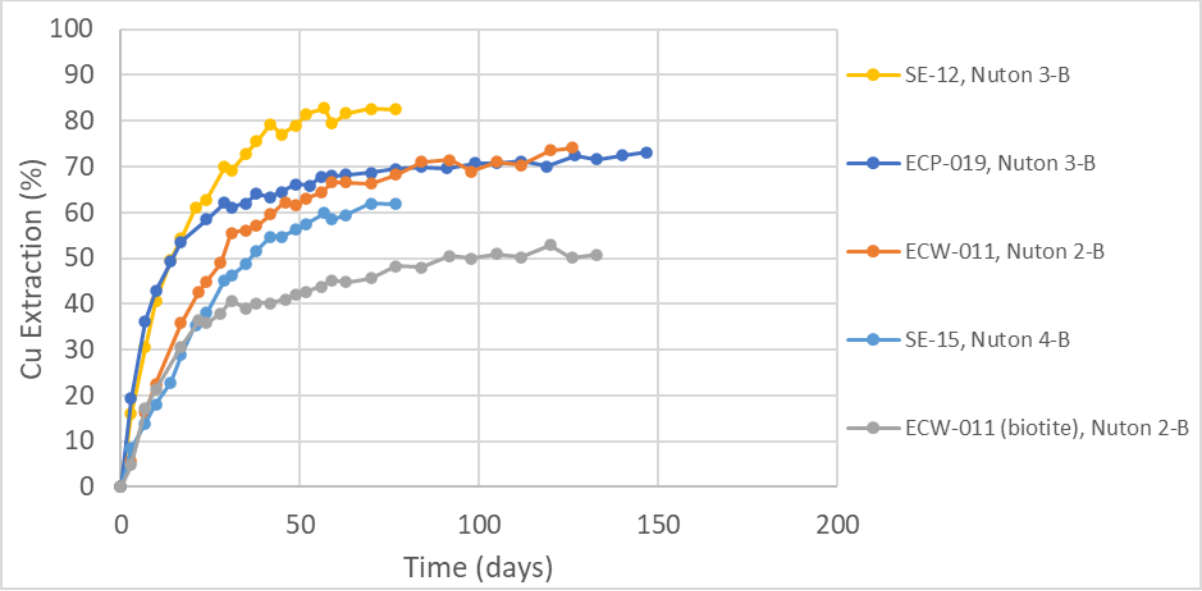
TABLE 1: Preliminary Extraction Rates and Acid Consumption

	ASCU				NUTON™	
	Programs updated Feb 2022 and May 2023				Preliminary Column Data	
Mineral Resource Location	Net Copper Extraction (% Cu AS)	Net Copper Extraction (% CuCN)	Blended Extraction (%)	Net Acid Consumption (kg/tonne)	Extraction (%)	Net Acid Consumption (kg/tonne)
Oxides						
Stockpile	90% [1]	40% [1]	81%	8	n/a	
Cactus West	92% [1]	73% [1]	88%	8		
Cactus East	92% [1]	73% [1]	90%	8		
Parks Salyer						
Enriched (Secondary Sulphide)						

	ASCU				NUTON™	
Cactus West	92% [1]	73% [1]	78%	(-) [5]	80% - 90%	2.2
Cactus East	92% [1]	73% [1]	76%	(-) [5]	80% - 90%	2.2
Parks Salyer			80%	(-) [5]	80%	2.2
Primary Sulphides						
Flotation (ASCU)/ Leaching (Nuton)			86% [2]	(-) [5]	61% - 82% [3]	3.4
Blended (Primary and Secondary Sulphide)						
Flotation (ASCU)/ Leaching (Nuton)			91% [2]	(-) [5]	51% - 81% [4]	3.4

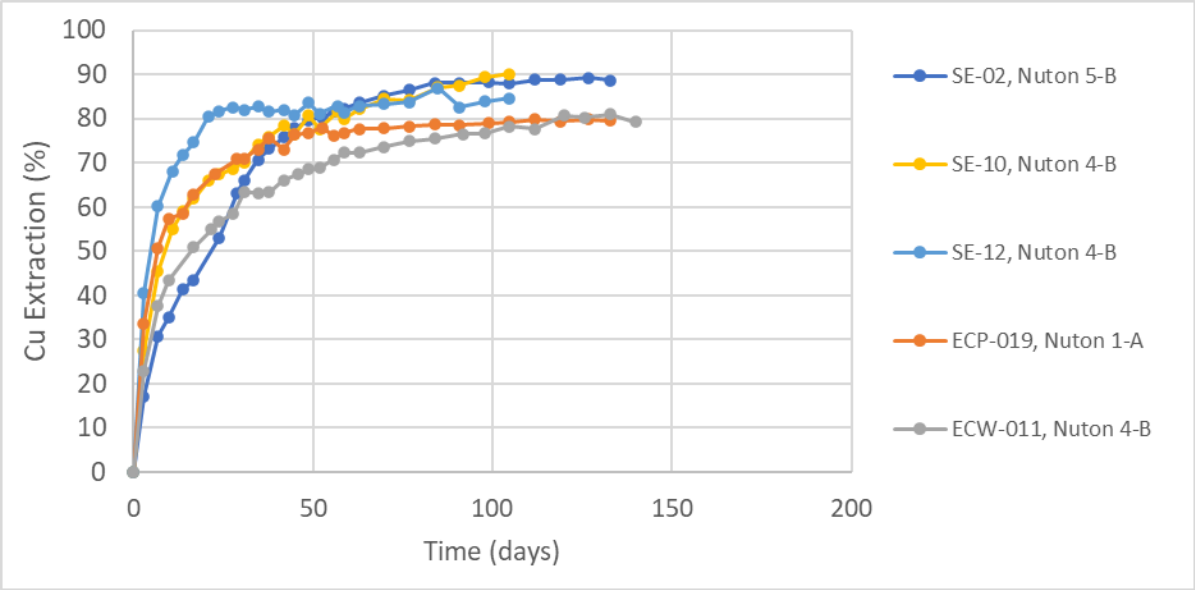
[1] As reported on February 23, 2022, Arizona Sonoran Updates on Metallurgical improvements at the Cactus Mine Project
[2] Initial flotation results from 2022 testing program
[3] Excludes ASC 6 (ECW-011) that has anomalous high Biotite content (See Phase 2 workplan)
[4] Excludes column ASC 6 (ECW-011) that has anomalous high Biotite content and low temperature (See Phase 2 workplan)
[5] Net acid consumption is either nil or net generating

FIGURE 4: Nuton Primary Sulphides Columns Cu Extraction*



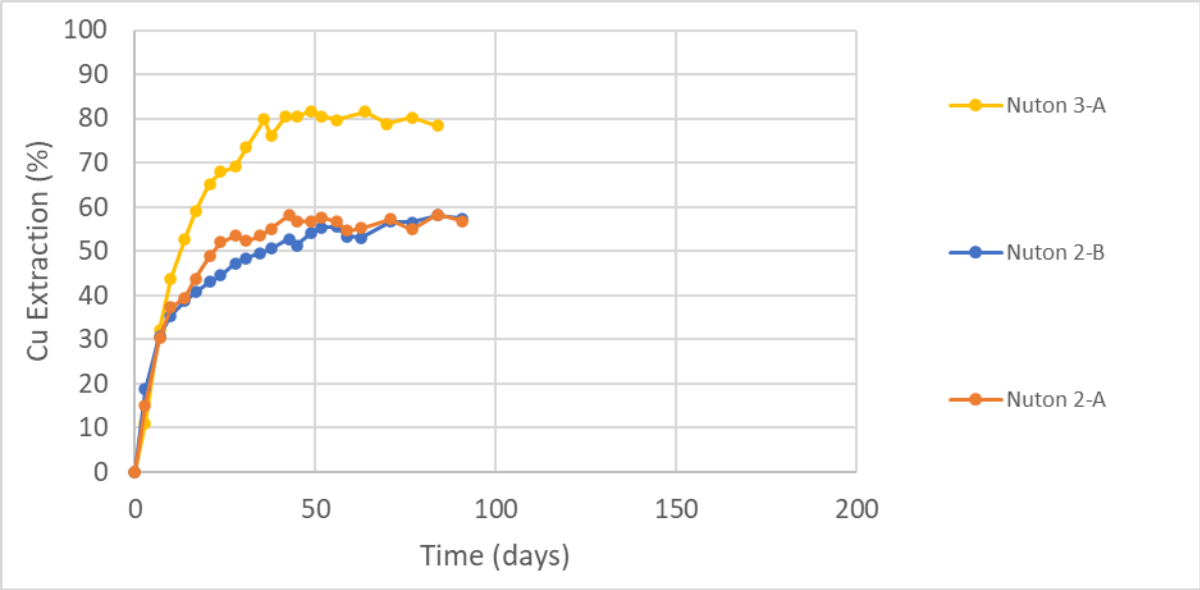
* Not optimized and operated under a range of Nuton and non-Nuton conditions

FIGURE 5: Nuton Enriched Sulphides Columns Cu Extraction*



* Preliminary column results not optimized

FIGURE 6 – Nuton Primary and Enriched Sulphides Blended Columns Cu Extraction*



* Not optimized and operated under a range of Nuton and non-Nuton conditions

The initial results show enhanced extraction rates on existing enriched material within Cactus and Parks/Salyer which may or may not be incremental to the ASCU-only extraction rates, even in a

blended sulphide approach, and is subject to further ASCU-only metallurgical test work and the impact of a commercial framework with Nuton.

PHASE 1: METHODOLOGY

All 13 Nuton, 6-inch (150 cm) diameter columns were a height of 3.3 ft (1 m) and controlled at a range of temperatures. The column temperatures are controlled and continuously monitored. In a commercial scale heap, heat is generated by exothermic bio-oxidation reactions which can be positively affected by the existence of pyrite.

Core samples were obtained from Cactus, as well as from the historical tailings facility for the Phase 1 test work program. Samples were separated into primary and secondary samples, dependent on the classification provided by the ASCU geology team. Subsequent mineralogical analyses of the primary samples showed that these are dominated by chalcopyrite as the main copper bearing mineral. Enriched samples generally provided a mixture of primary and secondary copper mineralization. Unoptimized preliminary leach conditions already provided excellent results, with further optimization planned for the potential second phase of the test work program.

PHASE 2: PROGRAM

Subject to agreement on a commercial path forward, a Phase 2 program is currently being planned, under the guidance of ASCU's independent QP, with additional sample material being prepared for shipping to the Nuton test facilities. The Phase 2 program will expand on Phase 1's proof of concept and provide more rigorous testing scenarios.

The additional column test program is expected to continue for a further 12 to 16 months from the end of Phase 1, but interim data will provide further information for development of the final process design criteria.

Commercial Framework

Testing work to date has been consistent with the terms of a Material Testing Agreement between ASCU and Nuton, which does not include the granting of any type of license for ASCU's use of the Nuton™ technologies. The Parties continue to explore various commercial frameworks for the deployment of the Nuton™ technologies at Cactus and/or Parks/Salyer and potential integration in ASCU's technical studies. The Parties are working toward agreement on major terms; however, it is possible that the Parties may be unable to reach agreement for any number of reasons.

Qualified Persons Statement

Technical aspects related to the metallurgical program of this news release have been reviewed and verified by James L. Sorensen – FAusIMM Reg. No. 221286 with Samuel Engineering, who is a qualified person as defined by National Instrument 43-101– Standards of Disclosure for Mineral Projects. The indicative metallurgical information presented describes preliminary results from testing that is currently in progress and subject to confirmation. Final metallurgical performance estimates will require decommissioning of the columns and analysis of the column residues.

Images from the Press Release:
https://arizonasonoran.com/projects/cactus-mine-project/press-release-images/

Neither the Toronto Stock Exchange nor the regulating authority has approved or disproved the information contained in this press release.

About Nuton

Nuton is an innovative new venture that aims to help grow Rio Tinto's copper business. At the core of Nuton is a portfolio of proprietary copper leach related technologies and capability – a product of almost 30 years of research and development. The Nuton™ technologies offer the potential to economically unlock low-grade copper sulphides resources, copper bearing waste and tailings, and achieve higher copper recoveries on oxide and transitional material, allowing for a significantly increased copper production outcome. One of the key differentiators of Nuton is the potential to deliver leading environmental performance, including more efficient water usage, lower carbon emissions, and the ability to reclaim mine sites by reprocessing mine waste.

About Arizona Sonoran Copper Company (www.arizonasonoran.com **|** www.cactusmine.com**)**

ASCU's objective is to become a mid-tier copper producer with low operating costs and to develop the Cactus and Parks/Salyer Projects that could generate robust returns for investors and provide a long term sustainable and responsible operation for the community and all stakeholders. The Company's principal asset is a 100% interest in the Cactus Project (former ASARCO, Sacaton mine) which is situated on private land in an infrastructure-rich area of Arizona. Contiguous to the Cactus Project is the Company's 100%-owned Parks/Salyer deposit that could allow for a phased expansion of the Cactus Mine once it becomes a producing asset. The Company is led by an executive management team and Board which have a long-standing track record of successful project delivery in North America complemented by global capital markets expertise.

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Forward-Looking Statements

Forward-looking statements involve known and unknown risks, uncertainties and other factors which may cause the actual results, performance or achievements of ASCU to be materially different from any future results, performance or achievements expressed or implied by the forward-looking statements. Factors that could affect the outcome include, among others: future prices and the supply of metals; the results of drilling; inability to raise the money necessary to incur the expenditures required to retain and advance the properties; environmental liabilities (known and unknown); general business, economic, competitive, political and social uncertainties; results of exploration programs; accidents, labour disputes and other risks of the mining industry; political instability, terrorism, insurrection or war; or delays in obtaining governmental approvals, projected cash operating costs, failure to obtain regulatory or shareholder approvals.

Although ASCU has attempted to identify important factors that could cause actual actions, events or results to differ materially from those described in forward-looking statements, there may be other factors that cause actions, events or results to differ from those anticipated, estimated or intended. Forward-looking statements contained herein are made as of the date of this news release and ASCU disclaims any obligation to update any forward-looking statements, whether as a result of new information, future events or results or otherwise, except as required by applicable securities laws.