

## NEWS RELEASE

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Trading Symbols:

TSX: AMM, NYSE MKT: AAU

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### **ALMADEN PROVIDES IXTACA PRE-FEASIBILITY PROGRAM AND METALLURGICAL UPDATE: CONFIRMS 90% RECOVERIES FOR GOLD AND SILVER IN LIMESTONE WITH REDUCED LEACH REAGENT CONSUMPTIONS**

**Vancouver, B.C. Almaden Minerals Ltd. (“Almaden” or “the Company”; TSX: AMM; NYSE MKT: AAU)** is pleased to report on the Company’s 100% owned Ixtaca gold-silver deposit located in Puebla State, Mexico and the progress of its ongoing Pre-Feasibility (“PFS”) level metallurgical test work program.

The 2016 metallurgical test work has focused on continued optimization of the gravity and flotation concentration circuits, and of leach reagent consumption rates. Results reported today are consistent with the Amended Preliminary Economic Assessment (PEA) overall recovery projections of 90% gold and 90% silver for the limestone domain (see January 22nd, 2016 press release). The limestone domain represents approximately 90% of the total metal produced under the Amended PEA. Key parameters and results of the 2016 limestone test work completed to date include the following:

- A limestone sample was collected using 131 meters (659 kilograms) of continuous whole drill core from inside the planned open pit mine with an average sample grade of 0.76 g/t gold and 36 g/t silver. The sample was collected from the planned start-up pit area and represents limestone mill feed grades anticipated in the first 5 years of mining.
- Optimised gravity concentration conditions have resulted in gravity concentration gold recoveries of approximately 50% and silver recoveries of approximately 30% at a grind size of 75 microns. This is a significant improvement from previous gravity concentration tests. The gravity tests used a lab-scale version of the Falcon gravity concentrators already included in the optioned Rock Creek processing plant.
- Flotation mass pulls have been reduced (higher grade concentration) to less than 10% while maintaining combined gravity/flotation gold and silver recoveries in excess of 90%.
- Leach tests on gravity and flotation concentrates are consistently achieving reduced leach reagent consumptions with NaCN consumptions reduced to less than 1.0 kg per tonne of ore and lime consumption reduced to less than 0.2 kg per tonne ore.

Ongoing limestone metallurgical test work will focus on demonstrating the repeatability of the above gravity and flotation results, and continuation of the leach circuit optimization program. Test work will then expand to the smaller metallurgical domains (Volcanics and Black Shale).

The results received to date also continue to confirm the suitability of the Rock Creek crushing/grinding/gravity/leach processing facilities (secured by the Company through an option to purchase agreement) as well as the assumptions and flowsheet design of the 2016 Amended PEA. The work is being carried out at McClelland Laboratories in Reno Nevada, under the supervision of independent engineers Moose Mountain Technical Services. Tracey Meintjes, P.Eng. of MMTS, a qualified person under the meaning of NI 43-101 reviewed the technical information in this news release. The Ixtaca deposit gold and silver mineralisation occurs as electrum (a gold/silver alloy) and gold and silver bearing sulphides in epithermal veins and veinlets cutting carbonate (limestone and shale) and volcanic rocks. There is negligible disseminated mineralisation in the carbonate rocks which host the majority of the gold and silver vein mineralisation, the remainder of which occurs in the overlying altered volcanic ash units. Gold and silver mineralogy vary little within domains and grade varies according to the density of veining. The detailed mineralogy and geologic observations carried out before metallurgical test work indicated the opportunity to pre-concentrate electrum and precious metal bearing sulphides to create a gold silver concentrate. The three prior rounds of metallurgical test work, and the work reported today, confirm a likely flow sheet of gravity and flotation to produce a concentrate for subsequent leaching to create a gold-silver doré.

### **About the Ixtaca Deposit PFS Program**

The Company has selected independent engineers Moose Mountain Technical Services (“MMTS”) and Knight Piesold Ltd. (“KP”) to prepare a PFS study. Development related activities are currently underway, including advanced engineering and environmental baseline studies to meet the requirements of a PFS and the submittal of an environmental permit application and risk assessment to the Mexican regulatory agency responsible for mine permitting.

To date Almaden has completed or initiated the following studies:

- Hydrological studies including the drilling of water test wells and installation of hydrologic equipment for baseline monitoring of existing subsurface water flow and quality on the project site (installation complete, monitoring ongoing);
- Baseline surface water quality and flow measurements (monitoring ongoing);
- Water management studies (ongoing);
- Geochemical characterization of rock materials (complete);
- Condemnation drilling of areas where mine infrastructure is planned (complete);
- Geotechnical drilling to confirm foundation, footing and subsurface material quality (complete);
- Geomechanical drilling to confirm rock strength, hardness and pit slope parameters (complete);
- Terrain and seismic hazards assessment (ongoing);
- PFS level metallurgical test work (ongoing);
- Flora and fauna studies (complete);
- Installation of a weather station (complete).

The Company currently expects the above studies to be largely complete in 2016 allowing a PFS for the Ixtaca project to be completed early in 2017. The PFS will use the Rock Creek processing facilities as a base case and will assess the opportunity for a larger mine plan at a higher throughput.

MMTS is an association of Geologists, Engineers and Technicians providing experienced knowledge in Geology, Mine Engineering, and Metallurgical Services and Support to the mining industry for over 15 years. Through their network of associates they provide an integrated team of experts and QP’s. Services range from early grassroots exploration and development, block model builds, resource and reserve estimates, advanced planning and studies for mine proposals (including operational support), process design and permitting process guidance and support. MMTS has experience working on coal, gold, silver, copper, molybdenum, and tungsten deposits throughout North and South America and around the world. A list of specific projects worked on by MMTS can be found at [www.moosemmc.com](http://www.moosemmc.com). KP is an international consulting firm and recognized leader in providing engineering and environmental services. KP’s expertise has been applied to hundreds of surface and underground mining projects in all stages of development and a broad range of environmental settings. KP provides industry leading services in water and waste management, tailings disposal, heap leach pads, rock mechanics and environmental services, and has been recognized for innovative services that meet high standards of reliability, security and cost effectiveness.

### **About the Ixtaca Deposit**

The Ixtaca Zone is a blind discovery made by the Company in 2010 on claims staked by the Company. The deposit is an epithermal gold-silver deposit, mostly hosted by veins in carbonate units and crosscutting dykes (“basement rocks”) with a minor component of disseminated mineralisation hosted in overlying volcanic rocks.

The Ixtaca deposit is located in a developed part of Mexico in Puebla State, the location of significant manufacturing investments including Volkswagen and Audi plants. The deposit is accessed by paved road and is roughly 20 kilometres from an industrial park with rail service where significant manufacturers such as Kimberly Clarke have facilities. Any potential mining operation at Ixtaca would be located in an area previously logged or cleared with negligible to no current land usage. The Company has access to the entire project area and works closely with local officials and residents. The Company has employed roughly 70 people in its exploration program who live local to the Ixtaca deposit. For example, local employees have made up virtually all the drilling staff and have been trained on the job to operate the Company’s wholly owned drills. The Company has implemented a comprehensive science based and objective community relations and education program for employees and all local stakeholders to transparently explain the exploration and development program underway as well as the potential impacts and benefits of any possible future mining operation at Ixtaca. The Company regards the local inhabitants to be major stakeholders in the Ixtaca deposit’s future along with the Company’s shareholders. Every effort is being made to create an open and clear dialogue with our stakeholders to ensure that any possible development scenarios that could evolve from the anticipated PFS are properly understood and communicated throughout the course of the Company’s exploration and development program. To better explain the impacts of a mining operation at Ixtaca the Company has conducted numerous tours for local residents to third party operated mines in Mexico so that interested individuals can form their own opinions of mining based on first-hand experience. The Company invites all interested parties to visit [www.almadenminerals.com](http://www.almadenminerals.com) to find out more about our community development, education and outreach programs.

## **About Almaden**

Almaden Minerals Ltd. is a well-financed company which owns 100% of the Tuligtic project in Puebla State, Mexico, subject to a 2.0% NSR royalty held by Almadex Minerals Limited. Tuligtic covers the Ixtaca Gold-Silver Deposit, which was discovered by Almaden in 2010.

On Behalf of the Board of Directors

*"Morgan Poliquin"*

Morgan J. Poliquin, Ph.D., P.Eng.  
President, CEO and Director  
Almaden Minerals Ltd.

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