

VANCOUVER, BC--(Marketwired - April 03, 2017) - [Almaden Minerals Ltd.](#) ("Almaden" or "the Company") (TSX: AMM) (NYSE MKT: AAU) is pleased to report positive results of the independent Pre-Feasibility Study ("PFS") and resource update prepared in accordance with National Instrument 43-101 ("NI 43-101") for its 100% owned Ixtaca precious metals deposit, located in Puebla State, Mexico.

HIGHLIGHTS (all values shown are in \$US; base case uses \$1250/oz gold and \$18/oz silver prices):

- Pre-tax NPV(5%) of \$484 million and internal rate of return of 54%;
- After-tax NPV(5%) of \$310 million and internal rate of return of 41%;
- Initial Capital of \$117 million;
- After-tax payback of initial capital in 2.2 years;
- Total LOM production of 1.04 million ounces of gold and 70.9 million ounces of silver dorĀ produced on site (2.07 million gold equivalent ounces, or 143 million silver-equivalent ounces at a 69:1 silver to gold ratio);
- Average annual production over the first 9 years of 88,780 ounces gold and 5.47 million ounces silver (168,100 gold equivalent ounces, or 11.6 million silver equivalent ounces);
- Operating cost \$706 per gold equivalent ounce, or \$10.20 per silver equivalent ounce;
- All-in Sustaining Costs ("AISC"), including operating costs, sustaining capital, expansion capital, private and public royalties, refining and transport of \$862 per gold equivalent ounce, or \$12.50 per silver equivalent ounce;
- Proven and Probable Minerals Reserves of 65 million tonnes averaging 0.62 g/t gold and 37.8 g/t silver (average head grade of 1.16 g/t gold equivalent using a 69:1 silver to gold ratio).

J. D. Poliquin, Chairman of Almaden reported, "We are very pleased to have advanced Ixtaca from a blind discovery in 2010 to its current position as an outstanding inventory of precious metals in a well established mining jurisdiction with a very robust economic profile. We are now looking forward to further developing this deposit through permitting, more advanced engineering and continued drilling of portions of the Ixtaca deposit that remain open as well as other targets on what remains a largely unexplored property."

Geology and Mineral Resource Estimate

The Ixtaca deposit is an epithermal gold-silver deposit, mostly hosted by veins in limestone and shale basement rocks with a minor component of disseminated mineralisation hosted in overlying volcanic rocks. In this PFS the limestone host rock comprised 82% of the metal produced, volcanic 8% and black shale 10% on a gold-equivalent basis using a 69:1 silver to gold ratio.

On January 31, 2013 the Company announced a maiden resource on the Ixtaca Zone, which was followed by a resource update on January 22, 2014. Since that time 33,618 metres of drilling have been completed in 122 holes, and this data is also included in the Mineral Resource Estimate which has been prepared in accordance with NI 43-101 by Gary Giroux, P.Eng., qualified person ("QP") under the meaning of NI 43-101, and summarised in the Table 1 below. The data available for the resource estimation consisted of 545 drill holes assayed for gold and silver. Wireframes constraining mineralised domains were constructed based on geologic boundaries defined by mineralisation intensity and host rock type. Higher grade zones occur where there is a greater density of epithermal veining. These higher grade domains have good continuity and are cohesive in nature.

Of the total drill holes, 472 intersected the mineralised solids and were used to make the resource estimate. Capping was completed to reduce the effect of outliers within each domain. Uniform down hole 3 meter composites were produced for each domain and used to produce semivariograms for each variable. Grades were interpolated into blocks 10 x 10 x 6 meters in dimension by Ordinary kriging. Specific gravities were determined for each domain from drill core. Estimated blocks were classified as either Measured, Indicated or Inferred based on drill hole density and grade continuity.

Table 1- Ixtaca Zone NI 43-101 Measured, Indicated and Inferred Mineral Resource Statement with the Base Case 0.3 g/t AuEq Cut-Off highlighted from January 2017 Resource Statement. Also shown are the 0.5, 0.7 and 1.0 g/t AuEq cut-off results. AuEq calculation based average prices of \$1250/oz gold and \$18/oz silver.

MEASURED RESOURCE

AuEq Cut-off (g/t)	Tonnes > Cut-off (tonnes)	Grade>Cut-off			Contained Metal x 1,000		
		Au (g/t)	Ag (g/t)	AuEq (g/t)	Au (ozs)	Ag (ozs)	AuEq (ozs)
0.30	42,450,000	0.57	35.74	1.09	779	48,780	1,482
0.50	30,940,000	0.71	44.39	1.34	701	44,160	1,337
0.70	23,310,000	0.83	52.47	1.59	625	39,320	1,192
1.00	16,430,000	1.01	62.28	1.91	533	32,900	1,006

INDICATED RESOURCE

AuEq Cut-off (g/t)	Tonnes > Cut-off (tonnes)	Grade>Cut-off			Contained Metal x 1,000		
		Au (g/t)	Ag (g/t)	AuEq (g/t)	Au (ozs)	Ag (ozs)	AuEq (ozs)
0.30	83,370,000	0.45	22.54	0.77	1,195	60,410	2,064

0.50	50,220,000	0.60	29.56	1.02	964	47,730	1,650
0.70	32,280,000	0.75	35.72	1.26	776	37,070	1,311
1.00	18,260,000	0.97	43.47	1.59	568	25,520	936

INFERRED RESOURCE

AuEq Cut-off (g/t)	Tonnes > Cut-off (tonnes)	Grade>Cut-off			Contained Metal x 1,000		
		Au (g/t)	Ag (g/t)	AuEq (g/t)	Au (ozs)	Ag (ozs)	AuEq (ozs)
0.30	47,050,000	0.30	19.15	0.58	457	28,970	874
0.50	19,860,000	0.45	27.31	0.85	288	17,440	540
0.70	10,260,000	0.61	32.98	1.09	202	10,880	359
1.00	4,430,000	0.88	38.50	1.43	125	5,480	204

- This Mineral Resource Estimate was prepared by Gary Giroux, P.Eng. in accordance with NI 43-101, with an effective date of January 17, 2017.
- Mineral Resources that are not Mineral Reserves do not have demonstrated economic viability.
- The estimate of Mineral Resources may be materially affected by environmental, permitting, legal or other relevant issues. The Mineral Resources have been classified according to the CIM Definition Standards for Mineral Resources and Mineral Reserves in effect as of the date of this news release.
- All figures were rounded to reflect the relative accuracy of the estimates.
- Metal assays were capped where appropriate.

Mineral Reserve Estimate

The PFS describes the Mineral Reserve estimation methodology and summarizes the key assumptions used, and to which this estimate is subject. The qualified person responsible for the Mineral Reserve is Jesse Aarsen, P.Eng., of Moose Mountain Technical Services. The Mineral Reserve is a subset of the Mineral Resource comprising only measured and indicated mineral resource blocks that contribute positive economic value and that are planned for processing during the life-of-mine plan.

Table 2 - Mineral Reserves

	Tonnes (millions)	Diluted Average Grades		Contained Metal	
		Au (g/t)	Ag (g/t)	Au - '000 ozs	Ag - '000 ozs
Proven	28.4	0.68	45.0	623	41,032
Probable	36.8	0.57	32.0	669	37,793
TOTAL	65.1	0.62	37.7	1,292	78,825

Notes to Mineral Reserve table:

- Mineral Reserves have an effective date of March 30, 2017. All Mineral Reserves in this table are Proven and Probable Mineral Reserves. The Mineral Reserves are not in addition to the Mineral Resources, but are a subset thereof. All Mineral Reserves stated above account for mining loss and dilution.
- Associated metallurgical recoveries (gold and silver, respectively) have been estimated as 90% and 90% for limestone, 50% and 90% for volcanic, 50% and 90% for black shale.
- Reserves are based on a US\$1,250/oz gold price, US\$18/oz silver price and an exchange rate of US\$1.00:MXP20.00.
- Reserves are converted from resources through the process of pit optimization, pit design, production schedule and supported by a positive cash flow model.
- Rounding as required by reporting guidelines may result in summation differences.

Mining under the proposed production plan

The Ixtaca gold-silver project in the PFS is planned as an open pit mining operation using contractor mining with initial production in 2019 at a mill feed rate of 7,650 tonnes per day during Years 1-4 and a ramp up to 15,300 tonnes per day from Year 5 onwards.

Estimated mining inventory is comprised of 326 million tonnes of rock and 65 million tonnes of mill feed with an average mill feed grade of 0.62 grams per tonne gold and 37.7 grams per tonne silver. A total of 1.04 million ounces of gold and 70.9 million ounces of silver would be produced over the 14 year mine life.

The ultimate open pit is separated into seven mining phases. The mine plan consists of one year of pre-stripping (prior to ore processing start-up), and fourteen years of open pit mining. Stockpile reclaim will be fed to the processing facility throughout the mine life. All open pit ore and reclaimed stockpile material will be fed to a primary crusher near the pit rim and transported to the processing facility on an overland conveyor.

Processing

The PFS incorporates the Rock Creek process plant which was optioned by Almaden in October, 2015. The plant will operate initially at an average throughput of 7,650 tpd and expanding to 15,300 tpd by year 5, producing gold and silver doré on site. The process plant includes the following key design criteria:

- Three-stage crushing followed by grinding to P80 passing 75 microns;
- Gravity concentration with intensive leaching of gravity concentrate;
- Flotation of gravity concentration tails;
- Carbon-in-Pulp (CIP) to recover gold and silver from flotation concentrate and gravity leach tails;
- An elution circuit to strip loaded carbon, electrowinning and smelting to produce a precious metal doré;
- Cyanide destruction;
- Final tailings are thickened, then delivered to the tailings management facility.

The following table summarizes the production and processing parameters:

Table 3 - Projected Production and Processing Summary

Ore Reserves	65 million tonnes	
Average Processing Rate	7,650 tpd Year 1 to 4, 15,300 tpd Year 5 onwards	
Life of Mine (LOM) Strip Ratio	5 : 1	
	Gold	Silver
Average Mill Feed Grade	0.62 g/t	37.7 g/t
Average Process Recoveries	81%	90%
Average Annual Production LOM (ounces)	78,100	5,290,000
Total Production (ounces)	1,043,000	70,932,000

Capital and Operating Costs

The total estimated initial capital cost for the Ixtaca gold-silver project is \$116.9 million and sustaining capital (including expansion capital) is \$119.7 million over the LOM. The estimated expansion capital of \$72.1 million will be funded from cashflow. The estimated LOM operating costs are \$22.5 per tonne mill feed.

The following tables summarize the cost components:

Table 4 - Initial Capital Costs (\$ millions)

Mining	\$12.1
Process	\$35.6
Tailings Management Facility (TMF)	\$11.7
Water Management	\$5.4
Onsite Infrastructure	\$7.6
Offsite Infrastructure	\$7.8
Environmental	\$1.8
Indirects, EPCM, Contingency and Owner's Costs	\$34.9
Total	\$116.9

Table 5 - Expansion Capital Costs (\$ millions)

Mining	\$1.3
Process	\$35.4
Infrastructure	\$12.2
TMF and Water Management	\$3.4
Indirects, EPCM, Contingency and Owner's Costs	\$19.7
Total	\$72.1

Table 6 - LOM Average Operating Costs (\$)

Mining costs	\$1.70	\$/tonne mined
Mining costs	\$10.0	\$/tonne milled
Processing	\$11.6	\$/tonne milled
G&A	\$0.8	\$/tonne milled
Total	\$22.5	\$/tonne milled

Economic Results and Sensitivities

A summary of financial outcomes comparing base case metal prices to two alternative metal price situations is presented below. The PFS base case prices are derived from a combination of spot prices and current common peer usage, while the alternate cases consider the project's economic outcomes at varying prices witnessed at some point over the three years prior to this study.

Table 7 - Summary of Ixtaca Economic Results and Sensitivities to Precious Metal Prices (\$ million)

	Lower Case		Base Case		Upper Case	
	Pre-Tax	After-Tax	Pre-Tax	After-Tax	Pre-Tax	After-Tax
Gold Price (\$/oz)	\$1150		\$1250		\$1350	
Silver Price (\$/oz)	\$15		\$18		\$21	
NPV (5% discount rate)	\$275	\$175	\$484	\$310	\$693	\$443
Internal Rate of Return (%)	38%	28%	54%	41%	70%	52%
Payback (years)	2.4	2.6	2.0	2.2	1.6	1.9

The operating costs ("Opex") are projected to be US\$22.5 per tonne milled. The following table shows the sensitivity of project economics to a 10% change in the operating costs, assuming base case metals prices.

Table 8 - Summary of Ixtaca Economic Results and Sensitivities to Operating Costs (\$ million)

	Lower Case		Base Case		Upper Case	
	Pre-Tax	After-Tax	Pre-Tax	After-Tax	Pre-Tax	After-Tax
Opex (\$/t milled)	-10%		\$22.5/t		+10%	
NPV (5% discount rate)	\$581	\$372	\$484	\$310	\$386	\$248
Internal Rate of Return (%)	61%	46%	54%	41%	48%	35%
Payback (years)	1.9	2.1	2.0	2.2	2.1	2.3

The Ixtaca project is also sensitive to the exchange rate between U.S. dollars and Mexican Pesos ("MXP"). The PFS assumes an exchange rate of 20.00 MXP per U.S. dollar, and the following table shows the sensitivity of project economics to different exchange rates assuming base case metals prices.

Table 9 - Summary of Ixtaca Economic Results and Sensitivities to Exchange Rates (\$ million)

	Lower Case		Base Case		Upper Case	
	Pre-Tax	After-Tax	Pre-Tax	After-Tax	Pre-Tax	After-Tax
Exchange Rate (MXP: USD)	18.00		20.00		22.00	
NPV (5% discount rate)	\$380	\$243	\$484	\$310	\$569	\$364
Internal Rate of Return (%)	47%	35%	54%	41%	60%	45%
Payback (years)	2.1	2.3	2.0	2.2	1.9	2.1

Rock Management, Environment and Community

Almaden recognises the paramount importance of protecting the environment to facilitate the development of a sustainable project. Knight Pi&A©old Ltd. ("KP") has been retained to help the Company with long lead item studies concerning environmental monitoring, assessment and permitting matters. Almaden established the following environmental objectives for the Project:

- Protect surface and ground water quality;
- Incorporate environmental enhancement opportunities into the mine and final reclamation plans;
- Minimize the project footprint.

In order to achieve these objectives Almaden and KP have instituted comprehensive management strategies incorporating all

applicable best management practice (BMP) technologies as a fundamental component of the Project.

Enhancement Opportunities

Following review of the resource report and PFS, Almaden intends to explore the possibility of further project enhancements in the following areas:

- Almaden will be conducting further drilling in areas internal to and within close proximity of the Ixtaca PFS pit. The focus of drilling will be to add additional resources which could be mined either by open pit or underground methods for inclusion in future engineering studies;
- The key limestone unit accounts for 99% of total gold equivalent ounces in the first 3 years of production and 82% of total gold equivalent ounces produced over the life of mine. Metallurgical recoveries on the key limestone unit are indicated to be 90% for gold and 90% for silver. Metal recoveries within the black shale unit, which currently accounts for approximately 10% of total gold equivalent ounces produced in this PFS, are indicated to be 50% for gold and 90% for silver based on preliminary testing. The black shale unit will be a focus of future work as a number of potential avenues to improve gold recovery have not yet been explored;

Next Engineering and Development Steps

The Company will soon initiate work towards a Feasibility Study, and intends to submit the application for mine permits by the third quarter this year. Groundwater and surface water quality and quantity monitoring is well established, and a range of additional physical, and biological studies have been completed.

A NI 43-101 technical report for this Ixtaca Deposit PFS will be filed on SEDAR (www.sedar.com) within 45 days.

Qualified Persons, Quality Control and Assurance

The following companies have undertaken work in preparation of the PFS:

- APEX Geoscience Ltd. (Exploration and Drill data QA/QC)
- Giroux Consultants Ltd. (Mineral Resource Estimation)
- Moose Mountain Technical Services ("MMTS") (Overall Report Preparation, Mine Plan, Mineral Reserve, Mineral Processing, Infrastructure, and Financial Model)
- Knight PiÅsold Ltd. ("KP") (Geotechnical, Environmental, Rock and Tailings Management)

The independent qualified persons responsible for preparing the Ixtaca PFS are; Jesse Aarsen, P.Eng. and Tracey Meintjes, P.Eng. of MMTS, Ken Embree, P.Eng. of KP, Kris Raffle, P.Geo. of APEX Geoscience Ltd., and Gary Giroux, M.A.Sc., P.Eng. of Giroux Consultants Ltd., all of whom act as independent consultants to the Company, are Qualified Persons as defined by National Instrument 43-101 ("NI 43-101") and have reviewed and approved the contents of this news release.

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 gold, silver, copper, molybdenum, coal, uranium, rare earths, industrial minerals, 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.

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.

The analyses used in the preparation of the mineral resource statement were carried out at ALS Chemex Laboratories of North Vancouver using industry standard analytical techniques. For gold, samples are first analysed by fire assay and atomic absorption spectroscopy ("AAS"). Samples that return values greater than 10 g/t gold using this technique are then re-analysed by fire assay but with a gravimetric finish. Silver is first analysed by Inductively Coupled Plasma - Atomic Emission Spectroscopy ("ICP-AES"). Samples that return values greater than 100 g/t silver by ICP-AES are then re-analysed by HF-HNO₃-HClO₄ digestion with HCL leach and ICP-AES finish. Of these samples those that return silver values greater than 1,500 g/t are further analysed by fire assay with a gravimetric finish. Blanks, field duplicates and certified standards were inserted into the sample stream as part of Almaden's quality assurance and control program which complies with National Instrument 43-101 requirements. In addition to the in-house QAQC measures employed by Almaden, Kris Raffle, P.Geo. of APEX Geoscience Ltd., completed an independent review of Almaden's drill hole and QAQC databases. The review included an audit of approximately 10% of drill core analyses used in the mineral resource estimate. A total of 10,885 database gold and silver analyses were verified against original analytical certificates. Similarly, 10% of the original drill collar coordinates and down hole orientation survey files were checked against those recorded in the database; and select drill sites were verified in

the field by Kris Raffle, P.Geo. The QAQC audit included independent review of blank, field duplicate and certified standard analyses. All QAQC values falling outside the limits of expected variability were flagged and followed through to ensure completion of appropriate reanalyses. No discrepancies were noted within the drill hole database, and all QAQC failures were dealt with and handled with appropriate reanalyses. The mineral resource estimate referenced in this press release was prepared by Gary Giroux, P.Eng., an independent Qualified Person as defined by NI 43-101.

Exploration Opportunities

The Ixtaca deposit is one of several exploration targets on the wholly owned Tuligtic property. The Tuligtic claim covers an area of high level epithermal clay alteration. The project area is partially covered by volcanic ash deposits which mask underlying alteration, potential vein zones and associated soil responses. In areas devoid of this covering ash, soil sampling has defined several distinct zones of elevated gold and silver values and trace elements typically associated with epithermal vein systems. The Ixtaca zone is one of the largest areas of gold/silver soil response but it is also one of the areas with the least ash cover on the project. Management believes that the other altered and geochemically anomalous areas could represent additional zones of underlying quartz-carbonate epithermal veining like the Ixtaca zone.

The potential quantity and grade of these exploration targets is conceptual in nature. There has been insufficient exploration and/or study to define these exploration targets as a Mineral Resource. It is uncertain if additional exploration will result in these exploration targets being delineated as a Mineral Resource. The potential quantity and grade of these exploration targets has not been used in this PFS.

Cautionary Note concerning estimates of Measured, Indicated and Inferred Mineral Resources

This news release uses terms that comply with reporting standards in Canada and certain estimates are made in accordance with Canadian National Instrument 43-101 ("NI 43-101"). NI 43-101 is a rule developed by the Canadian Securities Administrators that establishes Canadian standards for all public disclosure an issuer makes of scientific and technical information concerning mineral projects. These standards differ significantly from the requirements of the U.S. Securities and Exchange Commission ("SEC"), and mineral resource information contained herein may not be comparable to similar information disclosed by United States companies.

This news release uses the terms "measured mineral resources", "indicated mineral resources" and "inferred mineral resources" to comply with reporting standards in Canada. We advise United States investors that while such terms are recognized and required by Canadian regulations, the SEC does not recognize them. United States investors are cautioned not to assume that any part or all of the mineral deposits in such categories will ever be converted into mineral reserves under SEC definitions. These terms have a great amount of uncertainty as to their existence, and great uncertainty as to their economic and legal feasibility. Therefore, United States investors are also cautioned not to assume that all or any part of the "measured mineral resources", "indicated mineral resources" or "inferred mineral resources" exist. In accordance with Canadian rules, estimates of "inferred mineral resources" cannot form the basis of pre-feasibility or other economic studies. It cannot be assumed that all or any part of the "measured mineral resources", "indicated mineral resources" or "inferred mineral resources" will ever be upgraded to a higher category.

About Almaden

[Almaden Minerals Ltd.](#) is a well financed company which owns 100% of the Tuligtic project in Puebla State, Mexico. 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.](#)

Forward Looking Statement

Neither the Toronto Stock Exchange (TSX) nor the NYSE MKT have reviewed or accepted responsibility for the adequacy or accuracy of the contents of this news release which has been prepared by management. Except for the statements of historical fact contained herein, certain information presented constitutes "forward- looking statements" or "forward-looking information" within the meaning of the United States Private Securities Litigation Reform Act of 1995 and Canadian securities laws. Such forward-looking statements, including but not limited to, those with respect to mineral resource and mineral reserve estimates, potential expansion of mineralization, potential size of mineralized zone, mining and processing plans, size and timing of exploration and development programs, estimated project capital and other project costs and the timing of submission and receipt and availability of regulatory approvals and permitting involve known and unknown risks, uncertainties and other factors which may cause the actual results, performance or achievement of Almaden to be materially different from any future results, performance or achievements expressed or implied by such forward-looking statements. Such factors include, among others, risks related to international operations, the actual results of current exploration activities, conclusions of economic evaluations, uncertainty in the estimation of mineral resources or mineral reserves, changes in project parameters as plans continue to be refined, environmental risks and hazards, increased infrastructure and/or operating costs, labour and employment matters, and government regulation and permitting requirements as well as those factors discussed in the PFS or in the section entitled "Risk

Factors" in Almaden's Annual Information Form and Almaden's latest Form 20-F on file with the United States Securities and Exchange Commission in Washington, D.C. Although Almaden has attempted to identify important factors that could cause actual results to differ materially from those anticipated in such forward-looking statements, there may be other factors that cause results not to be as anticipated, estimated or intended. There can be no assurance that such statements will prove to be accurate as actual results and future events could differ materially from those anticipated in such statements. Almaden disclaims any intention or obligation to update or revise any forward-looking statements, whether as a result of new information, future events or otherwise, other than as required pursuant to applicable securities laws. Accordingly, readers should not place undue reliance on forward-looking statements.

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