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Almaden Achieves 39% Gold And 47% Silver Mill Feed Grade Increase From Bulk Ore Sort Tests for Ixtaca

VANCOUVER (July 16, 2018) -- Almaden Minerals Ltd. ("Almaden" or "the Company"; TSX: AMM; NYSE American: AAU) is pleased to announce that it has achieved positive results from ore sorting trials carried out on ore samples from the Ixtaca gold-silver project located in Puebla State, Mexico. The ore sorting tests were carried out on a commercial XRT sorter using a bulk sample from the limestone host rock in the Ixtaca Main zone. The limestone host rock comprised 82% of the metal produced in the Pre-Feasibility Study which was filed on SEDAR on May 17, 2017 ("2017 PFS").

The results demonstrate that including conventional X-ray Transmission (XRT) ore sorting technology:

- Increases average mill feed grades for the limestone unit by 39% for gold, and 47% for silver;
- Is expected to significantly increase average annual metal production above the 147,900 ozs AuEq[1] per year achieved in the 2017 PFS;
- Is expected to improve project economic metrics such as IRR and Payback (on an after-tax basis, 41% and 2.2 years, respectively, in the 2017 PFS);
- Rejects 36% of run of mine as mine waste rock at the crushing stage;
- Results in 93% recovery for silver and 88% recovery for gold from the ore sorter;
- Is expected to result in only modest impact on capital costs;
- Has the potential to reduce the environmental footprint over the life of mine by:
  - Reducing process tailings;
  - Reducing process water usage;
  - Reducing process energy requirements and CO_2 emissions.

[1] Gold equivalency calculated using a 69:1 silver:gold ratio.

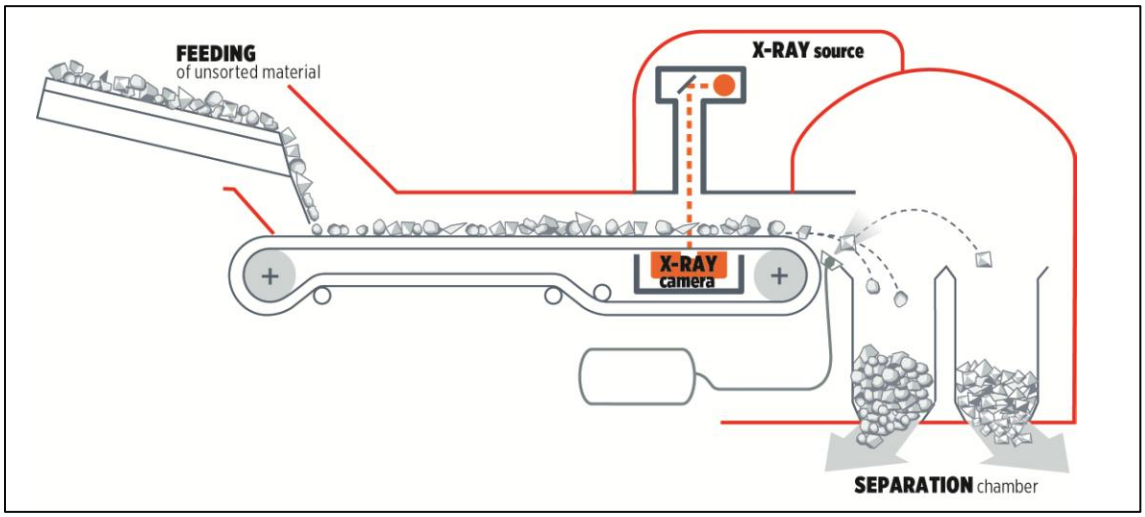
The detailed impact of the ore sorting results on the Ixtaca project will be evaluated as part of the ongoing Feasibility Study, which is anticipated to be completed in 2018.

Morgan Poliquin, President and CEO of Almaden stated, "The Ixtaca deposit is very well suited to ore sorting. This is because the actual occurrence of gold and silver in the limestone hosted portions of the Ixtaca project is in the form of high grade veins and veinlets, not, for example, as widespread low grade disseminated mineralisation. The many individual veins and veinlets within the vein swarms enclose irregular small bodies of barren limestone because these veins and veinlets branch and re-connect, as well as locally change strike and dip, pinch and swell. The wireframe models constructed to define the overall vein zones therefore contain interspersed irregular zones of barren limestone host rock. This inclusion of limestone dilution in the vein zone wireframes results in average reserve grades of 1.17 g/t AuEq1, as reported in the 2017 PFS. As indicated in these test results, ore sorting holds great promise of reducing this limestone dilution before milling. We are looking forward to seeing the results of this approach on the operating and economic profile of Ixtaca in the coming Feasibility Study."

How it works

Sensor-based ore sorting has been used in the mining industry for decades and it is estimated that sensor based ore sorting technology is currently in use in approximately 350 mines globally including

approximately 50 base and precious metal mines. The operation of a commercial ore sorting machine is shown below. Crushed and screened mineralized rock is evenly fed over a conveyor belt. An electric X-ray tube creates a broad-band radiation. This radiation penetrates the material and provides spectral absorption information that is measured with an X-ray camera. The resulting sensor information is then processed to provide a detailed “density image” of the material allowing it to be separated into high and low-density fractions. If the sensor detects material to be sorted out, it signals the control unit to open the appropriate valves of the ejection module at the end of the conveyor belt. The detected materials are separated from the material flow by jets of compressed air. The sorted material is divided into two fractions in the separation chamber.



Source: TOMRA

Figure 1 XRT Ore Sorting – functional principle

Source: TOMRA

Figure 2 Commercial TOMRA COM Tertiary XRT ore sorting machine

Ixtaca Ore Sorting Tests

The sorting tests were carried out in 2 phases. First, a First Inspection showed that an XRT sorter is able to detect high atomic density sulfide inclusions within the limestone host rock (see figure 3 below). Sensor images showed a correlation between ore grade and sensor response and thus an indication of "sortability" for the ore.

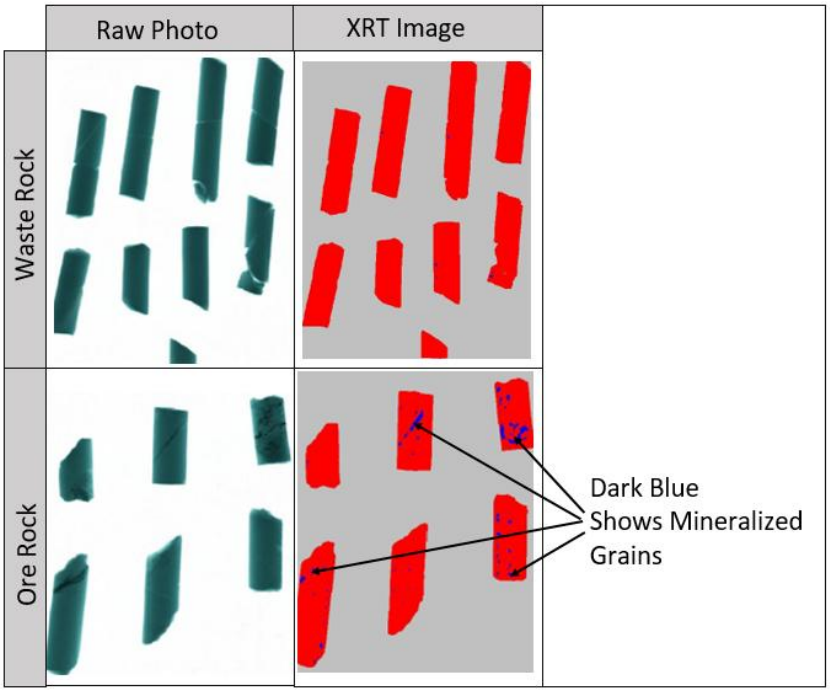


Figure 3 Ixtaca XRT First Inspection Images

In the second phase, a Performance Test was carried out on a commercial scale XRT machine. A 2,200 kg sample of limestone was collected from fresh drill core in the main zone.

The samples were prepared for sorting by crushing and screening at a McClelland metallurgical laboratory in Reno and shipped to the TOMRA ore sorting Test Center in Wedel, Germany. Fines (-12mm) are not sortable and were weighed and assayed at McClelland.

Tests were carried out at various TOMRA XRT equipment parameters at various feed size fractions. All waste and ore products from the trials were weighed and analyzed independently by ALS Global.

The results of the tests demonstrated that the XRT could successfully reject:

- 39% of waste rock from coarse rock (18mm to 50mm) at a grade of Au 0.25 g/t and 12 g/t Ag
- 52% of waste rock from midsize rock (12mm to 16mm) at a grade of Au 0.22 g/t and 12 g/t Ag

The above grades are below the anticipated mine cutoff grades.

A mass balance of the ore sorting test including consideration of the fines that will bypass the ore sorter and sent directly to mill feed is summarized in Table 1.

Table 1. Ore Sorting Mass Balance

Item	Unit	Value
Sample Head Au Grade	(g/t)	0.74
Sample Head Ag Grade	(g/t)	65
Total Waste Mass Rejection	%	36%
Total Waste Au Grade	(g/t)	0.24
Total Waste Ag Grade	(g/t)	12
Au Total Recovery	%	88%
Ag Total Recovery	%	93%
New Mill Feed Grade Au	(g/t)	1.03
New Mill Feed Grade Ag	(g/t)	95
Au Grade Improvement	%	39%
Ag Grade Improvement	%	47%

Drill core samples used in the Performance Tests have a more significant variation of thickness in cross-section (thin at the edges and thick at the center of the core) compared to typical crushed ROM rock. Better results are expected with more natural shaped material from actual operations.

As a result of the significant potential improvement to project economics, sensor-based ore sorting technology will be included as a part of the ongoing feasibility study.

Samples of the volcanic and black shale ore types that represent a minor portion of the potential mill feed have been collected and sent for ore sorting tests.

Qualified Person and QA/QC

Tracey Meintjes, P.Eng. of Moose Mountain Technical Services (MMTS) is the Qualified Person who supervised the preparation of the technical data in this news release.

Sample preparation was performed by McClelland Laboratories in Reno. Assays were carried out by ALS Global in Romania using AU-AA24 for gold and ME-ICP61 for silver. Silver assays over 100g/t were re-assayed using AG-OG62.

About Outotec and TOMRA:

TOMRA Sorting Solutions are in a technology partnership with Outotec to supply sorting solutions for the mining and metallurgical industry. TOMRA has 10,000 sensor based sorting installations around the world in various industries, including more than 200 installations in the mining industry.

About Almaden:

Almaden Minerals Ltd. owns 100% of the Ixtaca project in Puebla State, Mexico, subject to a 2.0% NSR royalty held by Almadex Minerals Ltd. The Ixtaca Gold-Silver Deposit 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.

Neither the Toronto Stock Exchange (TSX) nor the NYSE American 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" 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 potential expansion of mineralization, potential size of mineralized zone, and 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 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 and joint ventures, the actual results of current exploration activities, conclusions of economic evaluations, uncertainty in the estimation of mineral resources, 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 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, 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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