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Golden Minerals Company.

Updated PEA for Velardeña Properties (Durango, Mexico) Shows \$87.6 Million After-Tax NPV

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GOLDEN, CO - /BUSINESS WIRE/ - August 22, 2023 – Golden Minerals Company (“Golden Minerals,” “Golden” or the “Company”) (NYSE-A: AUMN and TSX: AUMN) announced today that an updated Technical Report (“TR”) has been completed as a Preliminary Economic Assessment (“PEA”) for its Velardeña Properties (Durango State, Mexico). The TR is prepared as an update of a previous PEA dated March 1, 2022. The updated TR incorporates additional information developed by the Company since the 2022 report, including updated pricing and concentrate sales terms, and the exclusion of a bio-oxidation plant that was formerly contemplated. The updated PEA estimates an after-tax net present value (“NPV”) of \$87.6 million, using a discount rate of 8%.

The TR has been completed in accordance with Canadian National Instrument 43-101 - *Standards of Disclosure of Mineral Projects* (“NI 43-101”). The Mineral Resources used for each report were developed by the independent engineering firm of Tetra Tech and comply with the requirements of NI 43-101. Preliminary results of each economic analysis are shown in pre-tax U.S. Dollars. The Company also plans to file a technical report summary pursuant to Subpart 1300 of Regulation S-K for the Velardeña Properties.

The TR assumes prices of \$1,826/ounce (“oz”) gold, \$22.71/oz silver, \$1.02/pound (“lb”) lead (“Pb”) and \$1.31/lb zinc (“Zn”). Mineral Resources were calculated having an effective date of June 1, 2023, as diluted to a minimum of 0.7 meters and are reported at a \$195 net smelter return (“NSR”) cutoff.

Economic Analysis - Highlights

An economic model was prepared for the Velardeña Properties using Measured, Indicated and Inferred Mineral Resources. Mineral Resources are not Mineral Reserves and do not have demonstrated economic viability. This PEA also considers Inferred Mineral Resources that are too speculative for use in defining Mineral Reserves. Results of the economic analysis are:

- Mine Life: 10.5 years
- Pre-tax NPV_{8%}: \$136.7M, IRR: 1,320.2%
- After-tax NPV_{8%}: \$87.6M, IRR: 860.7%
- Payback: Less than one year

Estimated Sulfide Resources

Classification	Mineral Type	Tonnes	Grade Ag g/t	Grade Au g/t	Grade Pb%	Grade Zn%	Ag oz	Au oz	Pb lb.	Zn lb.
Measured	Sulfide	203,200	402	6.02	1.71	2.08	2,625,900	39,300	7,680,000	9,306,300
Indicated	Sulfide	462,700	402	5.32	1.68	2.08	5,983,000	79,200	17,090,700	21,173,100
Measured + Indicated	Sulfide	665,900	402	5.54	1.69	2.08	8,608,900	118,500	24,770,700	30,479,400
Inferred	Sulfide	1,059,900	413	5.1	1.81	2.26	14,067,200	173,700	42,294,600	52,697,800

Notes:

1. Resources are reported as diluted tonnes and grade to 0.7 m fixed width.
2. Metal prices for NSR cutoff are: \$22.71/oz-Ag, \$1,826/oz-Au, \$1.02/lb Pb and \$1.31/lb Zn.
3. Columns may not total due to rounding.
4. Sulfide estimated resources taken from Table 1-1: Velardeña Project Mineral Resources.

Economic Analysis - Details

Economic model results are summarized below. The model includes Measured, Indicated and Inferred Mineral Resources. Closure and reclamation costs of \$1.5 million are assumed to be offset by salvage value and are therefore not included. The life of mine (“LOM”) is 10.5 years, with an NPV of \$87.6 million using a discount rate of 8%.

Production Summary	Total - LOM
Material Mined and Processed (kt)	1,216
Grade Au (g/t)	5.44
Grade Ag (g/t)	359
Grade Pb (%)	2.21
Grade Zn (%)	1.88
Lead Concentrate	
Au Recovered (koz)	15.85
Ag Recovered (koz)	10,651
Pb Recovered (klbs)	37,351
Au Grade in Concentrate (g/t)	9.3
Ag Grade in Concentrate (g/t)	6,250
Pb Grade in Concentrate (%)	31.96
Zinc Concentrate	
Zn Recovered (klbs)	26,724
Ag Recovered (koz)	426
Zn Grade in Concentrate (%)	50.26
Ag Grade in Concentrate (g/t)	548.88
Pyrite Concentrate	
Au Recovered (koz)	171.81
Ag Recovered (koz)	1,886
Au Grade in Concentrate (g/t)	19.66
Ag Grade in Concentrate (g/t)	216
Smelter Payable	
Payable Au (koz)	143.91
Payable Ag (koz)	12,020
Payable Pb (klbs)	35,484
Payable Zn (klbs)	22,715

Financial Summary	Total (\$M)
Gross Payable	\$ 601.70
TCs, RCs and Freight	\$ (84.80)
Penalties	\$ (3.50)
NSR	\$ 513.40
Operating Costs	
Mining	\$ (154.40)
Processing	\$ (33.90)
G&A	\$ (49.40)
Contingency	\$ (35.70)
Total Operating Cost	\$ (273.40)
Federal Mining Royalty	\$ (2.70)
EBITDA	\$ 237.40
Capital Costs	
Mine Equipment	\$ (0.80)
Processing Plant	\$ (0.10)
Sustaining Capital	\$ (3.60)
Surface Infrastructure and Other	\$ (0.30)
Contingency	\$ (0.70)
Total Capital Costs	\$ (5.50)
Change in Working Capital	\$ (1.40)
Pre-tax Cash Flow	\$ 230.40
NPV8%	\$ 136.70
IRR	1320%
Payback (years)	<1 year
Mexico SMT	\$ (17.80)
Income Tax	\$ (64.60)
After-tax Cash Flow	\$ 148.00
NPV8%	\$ 87.60
IRR	861%
NSR/tonne	\$ 422.24

Operating Cost Estimates

Item	Total	Unit Cost
	(\$000s)	(\$/t-milled)
Mining Costs	\$154,407	\$126.99
Processing Costs	\$33,921	\$27.90
G&A and Overhead	\$49,375	\$40.61
Contingency	\$35,655	\$29.32
Total ¹	\$273,358	\$224.82
Mexico Precious Metals Royalty	\$2,679	\$2.20

¹ Columns may not total due to rounding.

Run of Mine Production Summary

Conceptual stope shapes for the PEA production plan utilize the weighted average vein width of 0.7 meters. An additional dilution factor of 10% has been applied to the recoverable tonnes to align with current reconciliation data from the test mining operations at Velardeña.

Description	Value	Units
ROM Mined	1,216	kt
ROM Grades:		
Grade Au	5.44	g/t
Grade Ag	359.31	g/t
Grade Pb	2.21	%
Grade Zn	1.88	%
Contained Metal:		
Gold (Au)	213	koz
Silver (Ag)	14,046	koz
Lead (Pb)	59,278	klb
Zinc (Zn)	50,308	klb

Process Summary

Description	Units	Total Conc.	Pb Conc.	Zn Conc.	Fe Conc.
Products		348,940	53,007	24,118	271,816
Recoveries:					
Au	%	88.2	7.5	-	80.8
Ag	%	92.3	75.8	3.0	13.4
Pb	%	63.0	63.0	-	-
Zn	%	53.1	-	53.1	-
Recovered Metals:					
Gold (Au)	koz	187.7	15.8	-	171.8
Silver (Ag)	koz	12,963	10,651	426	1,886
Lead (Pb)	klb	37,351	37,351	-	-
Zinc (Zn)	klb	26,724	-	26,724	-

Sensitivity Analysis

Results of the sensitivity analyses show the project is most sensitive to precious metal prices, precious metal recoveries and operating costs. A 10% change in operating costs resulted in a 12% change in project NPV. Because of the sensitivity to operating costs, efforts to control or reduce operating costs are key to the economic success of the project.

Liquidity Update

At July 31, 2023, the Company had current assets of approximately \$9.7 million, including cash and cash equivalents of approximately \$2.9 million. On the same date, it had accounts payable and other current liabilities of approximately \$6.6 million. While the Company continues to explore various financing alternatives and asset sales, the Company has not yet obtained a source of capital that would permit it to restart production at the Velardeña Properties or fund general and administrative expenses. The Company has announced a letter of intent for the sale of the Santa Maria property for initial cash proceeds of \$1.5 million; however, if that transaction is consummated the funds would likely not be received until the end of September 2023 or later. If the Company is unable to arrange near term capital inflows from financing, asset sales or otherwise, its cash balance may be depleted during the third quarter of 2023 and the Company may be forced to liquidate or wind-up its business operations.

Cautionary Note Regarding Inferred Resources

The discounted cash flows shown above are prepared in compliance with NI 43-101. There is no certainty that the economic results described above will be realized. If the Company is able to obtain sufficient capital and restart production at the Velardeña Properties, the Company would do so without completing customary feasibility studies demonstrating the economic viability of the project. A mine production decision that is made without a feasibility study carries additional potential risks which include, but are not limited to, (i) increased uncertainty as to projected initial and sustaining capital costs and operating costs, rates of production and average grades, and (ii) the inclusion of Inferred Mineral Resources, as defined by NI 43-101 that are considered too geologically speculative to have the economic considerations applied to them that would enable them to be converted to a Mineral Reserve, as defined by NI 43-101. Mine design and mining schedules, metallurgical flow sheets and process plant designs may require additional detailed work and economic analysis and internal studies to ensure satisfactory operational conditions and decisions regarding future targeted production.

No Mineral Reserves have been estimated for the Velardeña Properties. Mineral Resources that are not Mineral Reserves do not have demonstrated economic viability. The economic model for the Velardeña Properties is preliminary in nature and includes inferred Mineral Resources that are too geologically speculative to have economic considerations applied to them that would enable the Inferred Mineral Resources to be classified as Mineral Reserves, and there is no certainty that the preliminary economic model for the Velardeña Properties will be realized.

About Golden Minerals

Golden Minerals is a gold and silver producer based in Golden, Colorado. The Company is primarily focused on initiating production at its Velardeña Properties (Mexico), advancing its Yoquivo gold-silver property (Mexico), advancing its El Quevar silver property (Argentina) through partner-funded exploration and on acquiring and advancing selected mining properties in Mexico, Nevada and Argentina.

Forward-Looking Statements

This press release contains forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended and Section 21E of the Securities Exchange Act of 1934, as amended, and applicable Canadian securities legislation, including statements regarding estimated resources, estimated mine life, projected economic analyses associated with the Velardeña Properties; cash proceeds from the potential sale of the Santa Maria property and the possibility of the Company being forced to liquidate and wind up its business operations in the event that the Company is unable to arrange near term capital inflows. These statements are subject to risks and uncertainties, including the Company’s ability to obtain a source of capital sufficient to allow it to restart operations at the Velardeña Properties and continue to pay general and administrative expenses; changes in interpretations of geological, geostatistical, metallurgical, mining or processing information and interpretations of the information resulting from exploration, analysis or mining and processing experience; and the Company’s ability to successfully mine the Velardeña Properties as contemplated in the PEA. Golden Minerals assumes no obligation to update this information. Additional risks relating to Golden Minerals may be found in the periodic and current reports filed with the Securities and Exchange Commission by Golden Minerals, including the Company’s Annual Report on Form 10-K for the year ended December 31, 2022.

Qualified Person

The following Qualified Persons from Tetra Tech will co-author the technical report that will be filed on SEDAR within 45 days of this news release: Dr. Guillermo Dante Ramírez Rodríguez, Mr. Randolph P. Schneider and Ms. Kira Lyn Johnson. Each of these Qualified Persons has reviewed and approved the information presented in this news release that was derived from the sections of the PEA study for which they were responsible. Each of the named Qualified Persons is independent of Golden Minerals.

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For additional information please visit <http://www.goldenminerals.com/> or contact:

Golden Minerals Company
Karen Winkler, Director of Investor Relations
(303) 839-5060
SOURCE: Golden Minerals Company