Scorpio Gold Announces Results of Updated Feasibility Study for Mineral Ridge, Nevada

written by Raj Shah | January 4, 2018

January 4, 2018 (Source) – Scorpio Gold Corporation ("Scorpio Gold" or the "Company") (TSX-V:SGN) is pleased to announce the results of an updated positive feasibility study ("the Project") to process the heap leach material and additional open-pit mineral reserves at its Mineral Ridge property ("the Property"), located in Esmeralda County, Nevada. Scorpio Gold holds a 70% interest in the Property, along with joint venture partner Elevon, LLC (30%).

This updated feasibility study includes the economic results of processing the reserves, in addition to the previously issued feasibility study (refer to press releases of October 10, 2017 and November 6, 2017) which considered only the processing of the heap leach pad reserves.

Brian Lock, Interim CEO comments, "Further to our prior announcement of the October 2017 feasibility study, the Company has received the results from Mine Technical Services on the mineable, higher-grade mineralization in the existing pits at Mineral Ridge, which increase the available mineral resources to 348,200 oz in the measured and indicated category, for an initial total reserve of 272,200 oz in the proven and probable category. The positive updated feasibility study indicates average gold sales of 33,400 oz/yr over an operating period of 7.5 years, with a net present value (NPV) discounted at 5%

(after-tax) of $35.1 million and an internal rate of return (IRR) of 30.0%. In addition, the Company believes future exploration at Mineral Ridge, if successful, may add to the known resources and potentially further extend the life-of-mine. Given the long operating history of Mineral Ridge by Scorpio Gold and predecessor companies, the existing infrastructure on site, and our management team's experience at the Project, we are confident in successfully executing on this next phase of the mine."

Mineral Resource Statement

The Mineral Resource estimate for the material on the heap leach pad that is directly amenable to processing is provided in Table 1. No cut-off criteria have been applied since there will be no selectivity of areas to be processed and the leach pad will be processed in its entirety. The Mineral Resources are reported inclusive of Mineral Reserves and have an effective date of 29 June 2017. Mineral Resources that are not Mineral Reserves do not have demonstrated economic viability. The Qualified Person (QP) for the estimate is Mr. Ian Crundwell, P.Geo.

The Mineral Resource estimate for the open-pit (other) areas is provided in Table 2 (Measured and Indicated) and Table 3 (Inferred) . The Mineral Resources are reported inclusive of Mineral Reserves and have an effective date of 30 November 2017. Mineral Resources that are not Mineral Reserves do not have demonstrated economic viability. The Qualified Person for the estimate is Mr. Ian Crundwell, P.Geo.

Table 1: Mineral Resource Estimate for Mineralization Contained within the Heap Leach Pad

Mineral Resource Classification	Tons ('000)	Gold (opt)	Silver (opt)	Contained Gold ('000 oz)	Contained Silver ('000 oz)

Measured	2,895	0.017	0.016	48.5	46.4
Indicated	4,220	0.017	0.018	73.2	74.1
Measured & Indicated	**7,117**	**0.017**	**0.017**	**121.7**	**120.4**
Inferred	76	0.016	0.027	1.2	2.0

Notes:

1. *The effective date of the Mineral Resource estimate is June 29, 2017.*
2. *The QP for the estimate is Mr. Ian Crundwell, P.Geo.*
3. *Mineral Resources are quoted inclusive of Mineral Reserves. Mineral Resources that are not Mineral Reserves do not have demonstrated economic viability.*
4. *Mineral Resources are contained within the Mineral Ridge leach pad facility with the following assumptions: a long-term gold price of $1,216/oz; assumed process costs of $11/t; and metallurgical recovery for gold of 91%. Silver was not used in the consideration of reasonable prospects for eventual economic extraction. Silver recoveries from heap leach pad material are projected to be 24%.*
5. *Rounding may result in apparent differences when summing tons, grade and contained metal content.*
6. *Tonnage and grade measurements are in Imperial units. Grades are reported in ounces per ton.*

Table 2: Measured and Indicated Mineral Resource Tabulation for Other Areas

Area	Classification	Tons (kt)	Gold Grade (opt)	Contained Gold (koz)

Brodie	Measured	455.7	0.063	28.6
	Indicated	237.9	0.056	13.4
	Subtotal Measured and Indicated	**693.6**	**0.060**	**41.9**
Custer	Measured	147.8	0.083	12.3
	Indicated	75.4	0.088	6.6
	Subtotal Measured and Indicated	**223.2**	**0.085**	**18.9**
Drinkwater HW	Measured	527.3	0.046	24.3
	Indicated	209.2	0.049	10.3
	Subtotal Measured and Indicated	**736.6**	**0.047**	**34.6**
Mary LC & Bunkhouse	Measured	721.4	0.072	51.7
	Indicated	403.3	0.074	29.8
	Subtotal Measured and Indicated	**1,124.7**	**0.072**	**81.5**
Oromonte	Measured	235.8	0.162	38.3
	Indicated	169.0	0.074	12.6
	Subtotal Measured and Indicated	**404.8**	**0.126**	**50.9**
Combined	Measured	2,088.0	0.074	155.2
	Indicated	1,094.8	0.066	72.6
	Total Measured and Indicated	**3,182.8**	**0.072**	**227.8**

Notes:

1. *The effective date of the Mineral Resource estimate is November 30, 2017.*
2. *The QP for the estimate is Mr. Ian Crundwell, P.Geo.*
3. *Mineral Resources are reported inclusive of Mineral*

Reserves at a gold cut-off grade of 0.01 opt Mineral Resources that are not Mineral Reserves do not have demonstrated economic viability.

4. *Mineral Resources are constrained to the area within the grade-shell wireframes. The areas outside of these grade shells are assumed to be at zero grade.*
5. *These Mineral Resource are considered to be amenable to open-pit mining. Conceptual Whittle pit shells used the following assumptions: a long-term gold price of $1,350/oz; assumed combined operating costs of $12.36/t (mining, process, general and administrative); metallurgical recovery for gold of 95%, and variable pit slope angles that ranged from 38–42º.*
6. *Rounding may result in apparent differences between when summing tons, grade and contained metal content. Tonnage and grade measurements are in Imperial units. Grades are reported in ounces per ton.*

Table 3: Inferred Mineral Resource Tabulation for Other Areas

Area	Classification	Tons (kt)	Gold Grade (opt)	Contained Gold (koz)
Brodie	Inferred	2.4	0.034	0.08
Custer	Inferred	–	–	–
Drinkwater HW	Inferred	180.1	0.059	10.61
Mary LC & Bunkhouse	Inferred	0.1	0.061	0.01
Oromonte	Inferred	0.4	0.092	0.03
Combined	**Total Inferred**	**182.9**	**0.059**	**10.73**

Notes:

1. *The effective date of the Mineral Resource estimate is*

November 30, 2017.

2. *The QP for the estimate is Mr. Ian Crundwell, P.Geo.*
3. *Mineral Resources are reported inclusive of Mineral Reserves at a gold cut-off grade of 0.01 opt. Mineral Resources that are not Mineral Reserves do not have demonstrated economic viability*
4. *Mineral Resources are constrained to the area within the grade-shell wireframes. The areas outside of these grade shells are assumed to be at zero grade.*
5. *These Mineral Resource are considered to be amenable to open-pit mining. Conceptual Whittle pit shells used the following assumptions: a long-term gold price of $1,350/oz; assumed combined operating costs of $12.36/t (mining, process, general and administrative); metallurgical recovery for gold of 95%, and variable pit slope angles that ranged from 38–42º.*
6. *Rounding may result in apparent differences between when summing tons, grade and contained metal content. Tonnage and grade measurements are in Imperial units. Grades are reported in ounces per ton.*

Mineral Reserve Statement

The Mineral Reserve estimates were prepared with reference to the 2014 Canadian Institute of Mining, Metallurgy and Petroleum (CIM) Definition Standards and the 2003 CIM Best Practice Guidelines. The Qualified Person for the estimate is Mr. Jeffery Choquette P.E., an HRC employee.

The Mineral Reserve estimate for the material on the heap leach pad is provided in Table 4. The estimate has an effective date of June 29, 2017.

Proven and Probable Mineral Reserves for the open-pit (other) area material are reported within the final pit design used for the mine production schedule and are shown in Table 5. The

estimate has an effective date of November 30, 2017.

Table 4: Mineral Reserve Estimate for the Heap Leach Pad

Mineral Reserve Classification	Tons (‘000)	Gold (opt)	Silver (opt)	Contained Gold (‘000 oz)	Contained Silver (‘000 oz)
Proven	2,895	0.017	0.016	48.5	46.4
Probable	4,220	0.017	0.018	73.2	74.1
Less Material Remaining in Place due to facility designs	(260)	0.017	0.017	(4.5)	(4.6)
Total Proven & Probable	**6,855**	**0.017**	**0.017**	**117.2**	**115.9**

Notes:

1. *The Mineral Reserves have an effective date of June 29, 2017.*
2. *The QP for the estimate is Mr. Jeffery Choquette P.E., an employee of Hard Rock Consulting.*
3. *Mineral Reserves are contained within the Project leach pad facility with the following assumptions: long-term gold price of $1,300/oz; assumed total ore process costs of $10.59/t; metallurgical recovery for gold of 91%, and 24% for silver, refining and smelting cost of $28.39/oz of gold. Allowance has been made for the facility location which excludes 260,000 t; this material must remain in-place, based on the to the heap material mining and tailings placement design.*
4. *Rounding as required by reporting guidelines may result in summation differences.*

Table 5: Mineral Reserve Estimate for the Other Areas

Pit Area	Mineral Reserve Classification	Tons (‘000)	Gold (opt)	Contained Gold (‘000 oz)
Brodie	Proven	51	0.042	2.1
	Probable	12	0.027	0.3
	Subtotal Proven and Probable	**63**	**0.039**	**2.5**
Custer	Proven	314	0.047	14.8
	Probable	144	0.032	4.6
	Subtotal Proven and Probable	**459**	**0.042**	**19.4**
Drinkwater	Proven	836	0.038	32.1
	Probable	352	0.033	11.7
	Subtotal Proven and Probable	**1,189**	**0.037**	**43.7**
Mary LC	Proven	470	0.035	16.3
	Probable	276	0.035	9.7
	Subtotal Proven and Probable	**746**	**0.035**	**26.0**
Bunkhouse	Proven	239	0.047	11.1
	Probable	4	0.021	0.1
	Subtotal Proven and Probable	**243**	**0.046**	**11.2**
Oromonte	Proven	563	0.071	39.8
	Probable	449	0.030	13.7
	Subtotal Proven and Probable	**1,012**	**0.053**	**53.5**

Total Combined	Proven	2,474	0.047	116.2
	Probable	1,239	0.032	40.1
	Total Proven and Probable	**3,713**	**0.042**	**156.3**

Notes:

1. *The Mineral Reserves have an effective date of November 30, 2017.*
2. *The Qualified Person for the estimate is Mr. Jeffery Choquette P.E., an employee of Hard Rock Consulting LLC.*
3. *Mineral Reserves are reported within the pit designs at a 0.01 opt gold cut-off grade. Pit designs incorporate the following considerations: base case gold price of $1,300/oz; pit slope angles that range from 38–47º; average life-of-mine metallurgical recovery assumption of 93%; crushing costs of $1.81/t, process cost of $5.79/t, general and administrative and tax costs of $2.90/t; and average mining costs of $1.42/t mined*
4. *Rounding as required by reporting guidelines may result in summation differences.*

Economic Parameters

The economic viability of the Project has been evaluated using constant dollar after-tax discounted cash flow methodology. This valuation method requires projecting material balances estimated from operations and calculating resulting economics. Economic value is calculated from sales of metal, plus net equipment salvage value and bond collateral less cash outflows such as operating costs, management fees, capital costs, working capital changes, any applicable taxes and reclamation costs. Of the $67.5 million in total capital required for the Project, $28.9 million is financed through a capital lease. Resulting annual cash flows are used to calculate the net present value and

internal rate of return of the Project.

The economic evaluation is based on the estimated Mineral Reserves on the heap leach pad as of June 29, 2017, plus the Mineral Reserves estimated in other areas that can be mined using open pit methods. Since the Project entails use of infrastructure active up to, and including, the time of capital investment, continuity of administrative and certain operational activities is expected, which allows certain costs to be determined based on actual history. Otherwise, operating and capital costs for proposed new activities have been derived by third-party engineers.

During the Project life (one year of initial capital investment and seven-and-one-half years of operation), the site will undergo further evaluation to extend its operating life, and as such, no end-of-project reclamation is included in this Project analysis.

The open-pit mining equipment is assumed to be acquired through a capital lease. The lease is modeled at a four-year term at 6% interest. Interest payments are reported as cash operating costs, principal payments reduce cash as a financing activity and costs are booked as assets on the balance sheet.

Economic Results

Based on the economic parameters summarized above, the Project returns a NPV5% (after-tax) of $35.1 million and an IRR of 30.0%, and achieves payback in 2.9 years (Table 6).

Table 6: Economic Results

Area	Unit	Total/Average
Construction Period	years	1
Operating Period	years	7.5

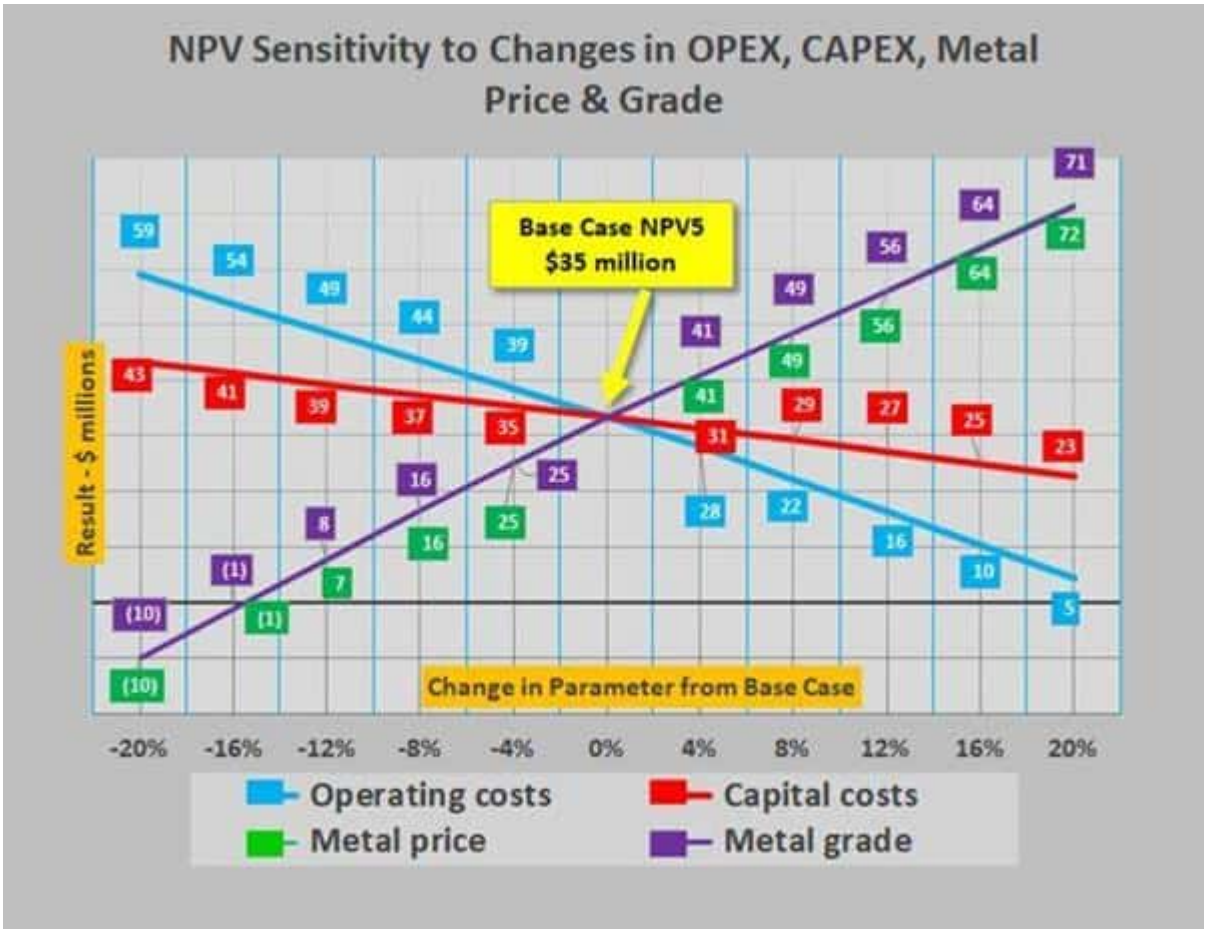
Heap Leach Pad Material Milled	kt	6,855
Average Leach Pad Gold Grade	opt	0.017
ROM Material Milled	kt	3,712
ROM Material Gold Grade	opt	0.042
Recovery After Process and Refining	%	91.6
Life of Project Gold Sold	koz	250.5
Average Annual Gold Sold	koz/a	33.4
Gold Price	$/oz	1,250
Realized Gold Price	$/oz	1,249.50
Average Silver Grade	opt	0.017
Average Annual Silver Sold	koz/a	3.7
Realized Silver Price (Average)	$/oz	19.81
Total Cash Cost	$/oz	805
Initial capital expenditures	$ million	34.9
Open-Pit Ore Capital Expenditures (Ops Year 6)	$ million	32.6
Total After-tax Net Cash Flow	$ million	53.5
Net Salvage Value	$ million	13.1
NPV of Net Cash Flow Discounted at 5%	$ million	35.1
IRR	%	30.0
Payback from End of Construction	years	2.9

Management anticipates that the Project returns could potentially be further enhanced through the judicious sourcing and refurbishment of certain used equipment, available for purchase in the south-western United States. However, no economic studies have been undertaken with respect to sourcing and refurbishing used equipment, including the Feasibility Study which is based on new equipment only.

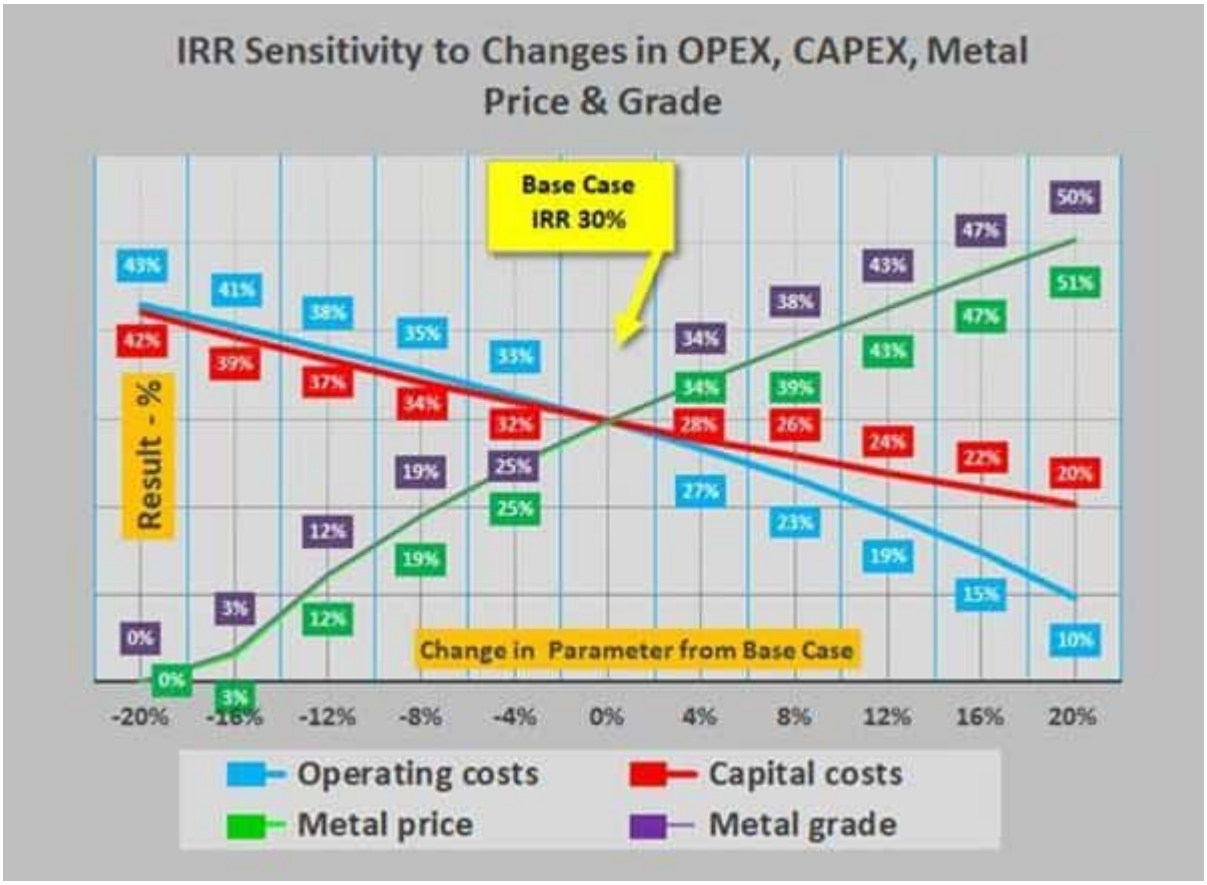
Sensitivity Analysis

Project sensitivity to variations in operating costs, capital costs, gold grade and metals price was evaluated with respect to the NPV. The NPV5% (after-tax) of the Project is more sensitive to changes in metal price and metal grade, as compared to changes in CAPEX and OPEX. For example, at a gold price of $1,100/oz, a 12% decrease, the NPV5% (after-tax) decreases to $10 million and the IRR declines to 13%. At a gold price of $1,400/oz, a 12% increase, the NPV5% (after-tax) increases to $58 million and the IRR increases to 43%.

The NPV sensitivity to CAPEX, OPEX, gold price and head grade is shown graphically in Figure 1 below.



Similarly, the sensitivity of the IRR to CAPEX, OPEX, gold price and head grade is shown graphically in Figure 2 below.



Conclusions

Based on the updated Feasibility Study, the Project, as defined in the technical report, is technically and economically viable. It is therefore recommended that Scorpio Gold construct the new processing facilities as described, to process the heap leach material as well as the reported open-pit reserves at the Property.

A technical report in support of the updated Feasibility Study prepared in accordance with National Instrument 43-101 – *Standards of Disclosure for Mineral Projects* ("NI 43-101") will be filed on SEDAR within 45 days of this news release. Readers are strongly encouraged to review the final technical report in its entirety.

Units of Measure

Unless otherwise defined herein, the following defined terms have the following meanings:

Unit				Symbol
foot				ft
meter				m
gram				g
ounce				oz
pound				lb
ton (short = 2,000 lb)				t
ounces per ton				opt
kilo (x 1,000)				k
million (x 1,000,000)				M
hour				h
minute				min
year				y
day				d
annum				a
tons per hour				tph
tons per day				tpd
tons per annum				tpa
US gallon				gal
cubic feet				ft^3
US gallons per minute				gpm
US dollars				$

Qualified Persons

The following are Qualified Persons (“QP”s) as defined by NI 43-101 and participated in the preparation of the feasibility

study:

Qualified Person	Company	QP Responsibility/Role
Mr. Todd Wakefield, RM-SME Ms. Stella Searston, RM-SME	Mine Technical Services	Geology
Mr. Ian Crundwell, P. Geo.	Mine Technical Services	Mineral Resources
Mr. Jeff Choquette, P.E.	Hard Rock Consulting, LLC	Mineral Reserves and Mining Methods
Mr. Paul Kaplan, P.E.	NewFields	Environment Studies and Permitting
Mr. Gordon John Cooper, P. Eng.	Novus Engineering Inc.	Mineral Processing
Mr. Amritpal Singh Gosal, P. Eng.	Novus Engineering Inc.	Infrastructure and Plant Design
Mr. Bruce Genereaux, RM-SME	Mine Technical Services	Economic Analysis

Scorpio Gold's Chairman, Peter J. Hawley, P.Geo., is a Qualified Person as defined in National Instrument 43-101 and has reviewed and approved the content of this release.

About Scorpio Gold

Scorpio Gold holds a 70% interest in the Mineral Ridge gold mining operation located in Esmeralda County, Nevada with joint venture partner Elevon, LLC (30%). Mineral Ridge is a conventional open pit mining and heap leach operation. Mining at Mineral Ridge has recently been suspended; however, the Company continues to generate limited revenues from residual but diminishing recoveries from the leach pads. Scorpio Gold also holds a 100% interest in the advanced exploration-stage

Goldwedge property in Manhattan, Nevada with a fully permitted underground mine and 400 ton per day mill facility. The Goldwedge mill facility has been placed on a care and maintenance basis and can be restarted immediately when needed.

ON BEHALF OF THE BOARD
SCORPIO GOLD CORPORATION

Brian Lock,
Interim CEO

Neither TSX Venture Exchange nor its Regulation Services Provider (as that term is defined in the policies of the TSX Venture Exchange) accepts responsibility for the adequacy or accuracy of this release.

The Company relies on litigation protection for forward-looking statements. This news release contains forward-looking statements that are based on the Company's current expectations and estimates. Forward-looking statements are frequently characterized by words such as "plan", "expect", "project", "intend", "believe", "anticipate", "estimate", "suggest", "indicate" and other similar words or statements that certain events or conditions "may" or "will" occur, and include, without restriction, any statements regarding the results of the feasibility study, including but not limited to, metal price and exchange rate assumptions, cashflow forecasts, projected capital and operating costs, metal or mineral recoveries, mine life and production rates; the Company's potential plans and operating performance, the estimation of the tonnage, grades and contents of deposits, and the extent of the resource and reserve estimates, potential production from and viability of the recoveries from the heap leach pads; estimates of future production and operating costs; estimates of permitting submissions and timing; the timing and receipt of necessary

permits and project approvals for future operations; access to project funding, exploration results and expected filing of the NI 43-101 Technical Report. Such forward-looking statements involve known and unknown risks, uncertainties and other factors that could cause assumptions and actual events or results to differ materially from estimated or anticipated events or results implied or expressed in such forward-looking statements, including the ability of the Company to operate as going concern; risks related to open pit mining and heap leach operations, changes in the economic valuations of the Project, such as Net Present Value calculations, internal rates of return and payback periods; unanticipated changes in the mineral content of materials being mined; unanticipated changes in recovery rates; changes in project parameters; failure of equipment or processes to operate as anticipated; the failure of contracted parties to perform; availability of skilled labour and the impact of labour disputes; delays in obtaining governmental approvals; the results of exploration and development programs and the timing and cost of such exploration and development programs; changes in metals prices; the availability of cash flows or financing to finance the processing of the leach pad material; meet the Company's ongoing financial obligations; unanticipated changes in key management personnel; changes in general economic conditions; the possibility that actual results of work may differ from projections/expectations or may not realize the perceived potential of the Company's projects; risks of accidents, equipment breakdowns; other unanticipated difficulties or interruptions and other risks of the mining industry; and those risk factors outlined in the Company's Management Discussion and Analysis as filed on SEDAR. Any forward-looking statement speaks only as of the date on which it is made and, except as may be required by applicable securities laws, the Company disclaims any intent or obligation to update any forward-looking

statement, whether as a result of new information, future events or results or otherwise. Forward-looking statements are not guarantees of future performance and accordingly undue reliance should not be put on such statements due to the inherent uncertainty thereof.