

# Temas Announces La Blache Titanium-Vanadium-Iron Project PEA Demonstrates CAD \$6.8B NPV8 55.1% IRR Post-Tax Return

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Strong Economics Supported by \$23.1B EBITDA over a 14-year Mine Life in Canada's Mining Friendly Jurisdiction of Quebec

VANCOUVER, February 7, 2024 - [Temas Resources Corp.](#) ("Temas" or the "Company") (CSE:TMAS) is pleased to report positive results of an Independent Technical Report and Preliminary Economic Assessment ("PEA") for the wholly-owned La Blache Ti-V-Fe Project located in the Cote Nord region of Quebec.

Project economics were estimated assuming market demand supports constant prices of USD \$2,200/tonne ("t") for titanium dioxide (97.8% purity TiO<sub>2</sub>), USD \$14,200/t for vanadium pentoxide (V<sub>2</sub>O<sub>5</sub>) and USD \$125/t iron oxide (Fe<sub>2</sub>O<sub>3</sub>). The PEA to be filed on SEDAR will present a complete description and list of assumptions. Capital and operating cost estimates were prepared based on current and expected long-term pricing assumptions and to a PEA level +/- 35% level of accuracy.

Tim Fernback, President of Temas Resources comments, "We are extremely pleased with the strong economics presented in this PEA on the La Blache Titanium-Vanadium-Iron Project in Quebec. Titanium has been trading well above our assumptions of USD \$2,200 per tonne for over three years at over USD \$3,000 per tonne since August 2022, and we believe this trend will continue due to the increasing demand for TiO<sub>2</sub>, major global supply coming to end of life, and lack of both brownfield expansion and new projects coming online in North America. The PEA further increases our confidence in the Project and showcases our proprietary, environmentally friendly extraction technology. With a current market cap of CAD \$5M, I am excited to engage with all our stakeholders to unlock the value of this highly robust Project as we advance the asset forward."

## PEA HIGHLIGHTS

Parameter	Units	Value
Post-tax Net Present Value (NPV <sub>8</sub> )	CAD \$ Billion	6.8
Post-tax IRR	%	55.1
Initial capital cost (Capex) (including 15 % contingency)	CAD \$ Billion	1.2
Capex payback from commercial production	Months	25
Pre-production Development	Years	2
Life of Mine ("LOM")	Years	14
Gross Project Revenue	CAD \$ Billion	37.2
Net Revenue (Revenue less transport offsite)	CAD \$ Billion	31.8
EBITDA (Operating Profit)	CAD \$ Billion	23.1
Net Project Cash Flow (pre-tax)	CAD \$ Billion	21.8
Net Project Cash Flow (post-tax)	CAD \$ Billion	15.9
Average Annual Gross Revenue	CAD \$ Billion	2.7
LOM average annual EBITDA	CAD \$ Billion	1.6
Net operating margin	%	62.0
Average Post-tax Operating Cost per tonne of concentrate	CAD \$/t	278.04
Weighted average revenue per tonne of product (net shipping)	CAD \$/t	633.49

LOM Sustaining Capital (including 15% contingency)	CAD \$ Billion	0.6
LOM average gross production of concentrate	Million tpa	3.58
Profitability Index (NPV <sub>8</sub> / Initial Capex) Post Tax	Ratio	5.71
LOM Capital Intensity Index (Initial Capex/ROM tonnage)	CAD \$ / tpd capacity	49,801
LOM average C1 cost / tonne run-of-mine production (incl. royalty, no tax)	CAD \$/t	79.24
LOM average AISC / tonne run-of-mine production	CAD \$/t	85.05
LOM average C1 cost / tonne concentrate (incl. royalty, no tax)	CAD \$/t	170.23
LOM average AISC / tonne concentrate	CAD \$/t	182.72
Average annual production TiO <sub>2</sub>	Ktpa	660
LOM mining production (Mill Feed)	Mt	108
LOM mining production (Mill Feed + Waste)	Mt	486
LOM average grade TiO <sub>2</sub>	%	12.2
LOM average grade TiO <sub>2</sub> Equivalents	%	16.8

Note:

All values in this news release are reported in CAD unless otherwise noted.

Assumed prices for LOM: USD \$2,200/t TiO<sub>2</sub>, USD \$14,200/t V<sub>2</sub>O<sub>5</sub>, USD \$125/t Fe<sub>2</sub>O<sub>3</sub>.

Units expressed in metric tonnes.

## MINERAL RESOURCES

The basis for the PEA is the Mineral Resource Estimate ("MRE") prepared by Samer Hmoud, (P.Geo. PGO), currently holding Special Authorization from OGQ, under the supervision of QP Jacques Dumouchel, P.Geo., OGQ.

The updated Mineral Resource Statement generated for La Blache is as follows:

		Units	Semi-Massive Oxide	Massive Oxide	TOTAL
Resource Category			Inferred	Inferred	Inferred
Resource	Mt		99.7	108.8	208.5
TiO <sub>2</sub>	%		6.3	17.8	12.3
V <sub>2</sub> O <sub>5</sub>	%		0.1	0.3	0.2
Fe <sub>2</sub> O <sub>3</sub>	%		22.0	59.4	41.5
TiO <sub>2</sub> Eq	%		8.3	24.3	16.7
Contained TiO <sub>2</sub>	Mt		6.2	19.4	25.6
Contained V <sub>2</sub> O <sub>5</sub>	Mt		0.1	0.3	0.4
Contained Fe <sub>2</sub> O <sub>3</sub>	Mt		21.9	64.6	86.5

Reported at a cut-off grade of 4.9 % TiO<sub>2</sub>, at a minimum mining block size of 10x10x10 meters ("m"), considering 3.51:1 strip ratio, bench height 5m, pit slope of 45° processing and selling technical parameters and costs benchmark against similar projects and a selling price of USD \$2,200/t (TiO<sub>2</sub>), USD \$14,200/t (V<sub>2</sub>O<sub>5</sub>) and USD \$125/t (Fe<sub>2</sub>O<sub>3</sub>). All figures are rounded to reflect the relative accuracy of the estimates. Mineral Resources are not Mineral Reserves and do not have a demonstrated economic viability. The contained TiO<sub>2</sub> represents estimated contained metal in the ground and has not been adjusted for metallurgical recovery and may have discrepancies due to rounding.

An Inferred Mineral Resource is that part of a Mineral Resource for which quantity and grade or quality are

estimated based on limited geological evidence and sampling. Geological evidence is sufficient to imply but not verify geological and grade or quality continuity. An Inferred Mineral Resource has a lower level of confidence than that applying to an Indicated Mineral Resource and must not be converted to a Mineral Reserve. It is reasonably expected that most of the Inferred Mineral Resources could be upgraded to Indicated Mineral Resources with continued exploration.

## SUMMARY OF PRELIMINARY ECONOMIC ASSESSMENT

Project economics were estimated assuming a constant price of USD \$2,200/t for titanium dioxide (97.8% purity), USD \$14,200/t for vanadium pentoxide and USD \$125/t iron oxide. The PEA will present a complete description and list of assumptions. Capital and operating cost estimates were prepared based on current and expected long-term pricing assumptions and to a PEA level +/- 35% level of accuracy.

In summary, the Project has a post-tax LOM net project cashflow (pre-finance) of CAD \$15.9 billion which returns a pre-tax NPV<sub>8</sub> of CAD \$9.4 billion, post-tax NPV<sub>8</sub> of CAD \$6.8 billion and an IRR of 55.1%. The following table presents the summary LOM cash flow resulting from the Technical Economic Model.

Metric	CAD \$ Millions	USD \$ Millions
Gross Revenue	37,223	27,573
Deductions (Off-Site Shipping)	5,454	4,040
Net Revenue	31,769	23,532
Operating Costs	8,076	5,982
Total LoM Project Capital excluding Closure	1,638	1,214
Start Up Project Capital excluding Working Capital	1,012	750
Start Up Project Capital including Working Capital	1,195	885
Start Up Plant and Infrastructure Capex	261	193
Start Up Mine and Equipment Capex	186	138
Start Up Capitalized Pre-stripping	296	219
Sustaining Capital	626	464
Owners and Indirects excluding Working Capital	339	251
Pre-Production Contingency	113	84
Sustaining Capex Contingency	130	96
Working Capital	183	135
Closure Cost	300	222
Project Free Cashflow (EBITDA)	23,067	17,087
Corporation Tax (Canada and Quebec)	5,868	4,346
Royalties	461	342
Net Project Cashflow (post-tax, undiscounted)	15,887	11,768
NPV <sub>8</sub> (pre-tax, discounted 8%)	9,454	7,003
NPV <sub>8</sub> (post-tax, discounted 8%)	6,830	5,059

Exchange Rate: 1.35 CAD : 1.00 USD

## SENSITIVITIES

The following table shows the pre-tax and post-tax NPV<sub>8</sub> at varying discount rates.

The base case discount rate of 8% returns a pre-tax NPV<sub>8</sub> of CAD \$9.4 billion (USD \$7.0 billion) and post-tax NPV<sub>8</sub> CAD \$6.8 billion (USD \$5.0 billion) post-tax.

Discount Rate	Pre-Tax NPV (CAD \$ Million)	Post-Tax NPV (CAD \$ Million)
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5%	\$12,726	\$9,241
8% (base case)	\$9,454	\$6,830
10%	\$7,825	\$5,629
12%	\$6,519	\$4,667
15%	\$5,012	\$3,556
Discount Rate	Pre-Tax NPV (USD \$ Million)	Post-Tax NPV (USD \$ Million)
5%	\$9,427	\$6,845
8% (base case)	\$7,003	\$5,059
10%	\$5,796	\$4,170
12%	\$4,829	\$3,457
15%	\$3,713	\$2,634

Exchange Rate: 1.35 CAD : 1.00 USD

The following table and figure show the effect on the post-tax NPV<sub>8</sub> at varying revenue, Opex, Capex, and material price levels (from -50% to +50%):

Sensitivities: Post Tax NPV<sub>8</sub> (8% discount rate)

(CAD \$ 000,000)

Variable Parameter	-50%	-40%	-30%	-20%	-10%	0%	10%	20%	30%	40%	50%
Revenue	0	1,393	2,762	4,125	5,478	6,830	8,182	9,524	10,854	12,185	13,515
(All Metals)											
Opex (All)	8,524	8,191	7,851	7,511	7,170	6,830	6,490	6,149	5,809	5,464	5,116
Mining Cost	7,559	7,413	7,267	7,121	6,976	6,830	6,684	6,539	6,393	6,247	6,101
Processing Cost	7,664	7,497	7,331	7,164	6,997	6,830	6,663	6,496	6,329	6,163	5,996
Shipping Cost	7,824	7,626	7,427	7,228	7,029	6,830	6,631	6,432	6,233	6,034	5,836
Capital (All)	7,289	7,204	7,118	7,033	6,936	6,830	6,725	6,620	6,516	6,411	6,306
TiO <sub>2</sub> Price Only	1,799	2,812	3,823	4,827	5,829	6,830	7,831	8,833	9,818	10,803	11,788

The following table and figure illustrate the projected Post-tax Internal rate of Return ("IRR") sensitivity of the Project to Operating Cost and Capital Cost variations.

Sensitivities: Post Tax IRR

Variable Parameter	-50%	-40%	-30%	-20%	-10%	0%	10%	20%	30%	40%	50%
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Revenue	8%	19%	29%	38%	47%	55%	63%	70%	77%	84%	90%
(All Metals)											
Opex (All)	69%	67%	64%	61%	58%	55%	52%	49%	46%	44%	41%
Mining Cost	63%	62%	60%	58%	57%	55%	54%	52%	50%	49%	47%
Processing Cost	61%	60%	58%	57%	56%	55%	54%	53%	52%	51%	49%
Shipping Cost	61%	60%	59%	58%	56%	55%	54%	53%	51%	50%	49%
Capital (All)	84%	76%	69%	64%	59%	55%	52%	49%	46%	44%	41%
TiO <sub>2</sub> Price	22%	29%	36%	42%	49%	55%	61%	67%	72%	77%	82%

## MINING

The geometry and depth of the mineralization identified at La Blache is ideal for an open pit operation with semi-massive mineralization recoverable in what has previously been treated as pre-strip waste rock. It is envisaged that mining will be through conventional means in a large single open-pit operation featuring:

- 45° pit slope walls with 5m benches and a 3.51:1 strip ratio
- A single large waste dump near to the pit.
- A single large tailings storage facility near to the waste dump.

The conceptual mine plan underlying the preliminary economic assessment envisages an annual Run of Mine ("ROM") average of 7.7 million tonnes (LOM total of 107.7 million tonnes) to produce a total of approximately 9.2 million tonnes of TiO<sub>2</sub>, 40.6 million tonnes of Fe<sub>2</sub>O<sub>3</sub>, and 152 thousand tonnes of V<sub>2</sub>O<sub>5</sub> over the 14-year LOM.

## PROCESSING

All ROM production is to be delivered to the processing facility where it will be crushed and then ground to ~210 microns and then run through Temas's proprietary, low temperature, chloride leach process which will be applied to extract the elements of interest.

Temas conducted a pilot plant metallurgical test program in 2022 (see July 28, 2022 news release), which demonstrated the operational potential of the technology. The recovery grades and content defined by this pilot plant program are used to define the operational expectations at site and the team that conducted the work (Process Research Ortech) assisted in the site design. The process flowsheet consists of crushing, grinding, two-stage leaching in mixed chloride lixiviant, solvent extraction, followed by precipitation and calcination to obtain a high purity TiO<sub>2</sub> product.

The iron-rich liquor separated early in the process can be recovered by pyrohydrolysis, where the chloride leachate is recovered and returned to the process. In a similar fashion, the V<sub>2</sub>O<sub>5</sub> is removed as a byproduct using solvent extraction during the finishing stages of the TiO<sub>2</sub> extraction process. The performance of the metals in both the pilot plant and previous studies were used to form the design and performance expectations in the PEA

## CAPITAL and OPERATING COSTS

A breakdown of the capital and operating costs used in the economic analysis are presented in the tables below.

### Project Capital Costs over Pre-Production and LOM

Project Capital	CAD \$ Million	USD \$ Million
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Capital Expenditures (excluding sustaining)	1,312	972
Pre-Production Capital (excludes closure and reclamation)	1,195	885
Direct Capital Expenditures	744	551
Processing Plant	95	70
Infrastructure	166	123
Mobile Equipment	186	138
Capitalized Waste Movement	296	219
Owners and Indirects excluding Working Capital	156	115
Working Capital	183	135
Pre-Production Contingency	113	84
Sustaining Capex Contingency	130	96
Closure and Rehabilitation	300	222
Total Sustaining Capital Costs	626	464
Contingency Sustaining CAPEX	130	96
Total All CAPITAL	1,938	1,436

#### Unit Operating Costs

Cost Category	Units	CAD \$	USD \$
Mining	\$/t mined	6.75	5.00
Mining (accounts for strip ratio of 3.51)	\$/t feed	30.46	22.56
Processing	\$/t feed	40.50	30.00
G&A Cost	\$/t feed	6.75	5.00
Shipping Cost	\$/t feed	50.63	37.50
Shipping Cost	\$/t concentrate	108.76	80.56
Royalty (2%)	\$/t feed	4.28	3.17
Tax	\$/t feed	54.46	40.34
Unit Costs per tonne Run of Mine mill feed processed (Capex, Opex, Tax, Royalty)	\$/t feed	143.20	106.08
Unit Costs per tonne Run of Mine mill feed processed (Capex, Opex, Tax, Royalty, Shipping )	\$/t feed	187.08	138.58
Unit Costs per tonne of concentrate production (Capex, Opex, Tax, Royalty, shipping)	\$/t concentrate	401.90	297.71

#### KEY CONCLUSIONS

Exploration activities undertaken to date, in conjunction with the results of previous exploratory works, have

outlined significant mineralization which, in the opinion of the Authors, justifies further activities. Studies should be undertaken in order to assess the potential of project development and, ultimately, mine construction.

The PEA reports an Inferred Mineral Resource Estimate for the Project which consists of both semi-massive oxide and massive oxide material, for a total MRE of 208.5 Mt with an average grade of 12.3% TiO<sub>2</sub>.

The conceptual LOM plan in the PEA includes the mining and processing of both semi-massive oxide and massive oxide material for a total of 107.7 Mt with an average grade of 12.2% TiO<sub>2</sub>.

The report shows the potential of the Project by demonstrating a post-tax NPV<sub>8</sub> for the Project of CAD \$6.8 billion and an IRR of 55.1%. It should be noted that there is a significant amount of future work to be undertaken in order to mitigate the risks before entering the mine construction phase. The authors of this PEA recommended appropriate actions and activities needed to properly assess and address these associated risks.

A future work program will be discussed to define the necessary studies towards the Pre-Feasibility Study ("PFS") stage, Feasibility Study ("FS") stage and ultimately, the mine construction phase in accordance with Quebec regulatory requirements standards and with community engagement and consultation.

## SUMMARY OF PRELIMINARY ECONOMIC ASSESSMENT

The PEA was prepared independently by ERM, under the supervision of QP Nigel Fung, P.Eng. (PEO); and the MRE under the supervision of Jacques Dumouchel, P.Geo (OGQ).

The PEA was prepared in accordance with the requirements of National Instrument 43-101 and is based on the Mineral Resource Estimate for La Blache with an effective date of February 7, 2024, (see "Mineral Resource" above).

## CAUTIONARY NOTE

The PEA summarized in this news release is considered preliminary in nature, contains numerous assumptions and includes Inferred Mineral Resources that are considered too speculative, geologically, to have the economic considerations applied to them that would enable them to be categorized as Mineral Reserves. There is no certainty that the results of the PEA will be realized. No Mineral Reserves have been estimated for La Blache. Mineral Resources are not Mineral Reserves and do not have demonstrated economic viability. Inferred Mineral Resources are that part of the Mineral Resource for which quantity and grade, or quality are estimated based on limited geologic evidence and sampling, which is sufficient to imply but not verify grade or quality continuity. Inferred Mineral Resources may not be converted to mineral reserves. It is reasonably expected, though not guaranteed, that the majority of Inferred Mineral Resources could be upgraded to Indicated Mineral Resources with continued exploration. Mineral Resources are captured within an optimized mine plan (within the constraints of a PEA) and meet the test of reasonable prospects for economic extraction.

The effective date of the PEA is February 7, 2024, and a technical report prepared in accordance with National Instrument 43-101 Standards of Disclosure for Mineral Projects ("NI 43-101") in support of the PEA will be filed on SEDAR within 45 days of this news release.

## QUALIFIED PERSONS

Nigel Fung, P. Eng is a Qualified Person as defined by NI 43-101, he is independent and has reviewed the technical information of the PEA that forms the basis for this news release and has approved the disclosure herein.

Jacques Dumouchel, P. Geo registered with the OGQ, is the Qualified Person as defined by NI 43-101 for

the Mineral Resource Estimate and is independent of the Company. He has reviewed the technical information that forms the basis for this news release and has approved the disclosure herein.

Rory Kutluoglu, P. Geo is a Qualified Person as defined by NI 43-101 and has reviewed and approved the technical information contained within this press release.

On behalf of the Board of Directors,

Tim Fernback, President & CEO

About Temas Resources

[Temas Resources Corp.](#) (CSE: TMAS) (OTCQB: TMAF) is focused on the advanced La Blache and Lac Brule Iron-Titanium-Vanadium projects in Quebec. The critical metals the Company is exploring for are key to our national mineral independence. Additionally, the Company invests in and works to apply its green mineral recovery technologies across its mining portfolio to reduce the environmental impact and carbon footprint of metal extraction through advanced processing and patented leaching technologies.

All public filings for the Company can be found on the SEDAR+ website [www.sedarplus.ca](http://www.sedarplus.ca). For more information about the Company, please visit [www.temasresources.com](http://www.temasresources.com).

For further information or investor relations inquiries:

Tim Fernback  
President and CEO  
[tfernback@shaw.ca](mailto:tfernback@shaw.ca)

or

KIN Communications Inc.  
Tel: 604-684-6730  
[tmas@kincommunications.com](mailto:tmas@kincommunications.com)

#### Cautionary Note Regarding Forward-Looking Statements

Neither the Canadian Securities Exchange nor the Market Regulator (as that term is defined in the policies of the Canadian Securities Exchange) accepts responsibility for the adequacy or accuracy of this release.

This news release includes certain "Forward-Looking Statements" within the meaning of applicable securities laws. When used in this news release, the words "anticipate", "believe", "estimate", "expect", "target", "plan", "forecast", "may", "would", "could", "schedule" and similar words or expressions, identify forward-looking statements or information. These forward-looking statements or information relate to, among other things: the exploration, development, and production at the Company's mineral projects; the use of proceeds from the Financing; and acceleration of the Warrants.

Forward-looking statements and forward-looking information relating to any future mineral production, liquidity, enhanced value and capital markets profile of the Company, future growth potential for the Company and its business, and future exploration plans are based on management's reasonable assumptions, estimates, expectations, analyses and opinions, which are based on management's experience and perception of trends, current conditions and expected developments, and other factors that management believes are relevant and reasonable in the circumstances, but which may prove to be incorrect. Assumptions have been made regarding, among other things, the price of metals; no escalation in the severity of public health pandemics; costs of exploration and development; the estimated costs of development of exploration projects; the Company's ability to operate in a safe and effective manner.

These statements reflect the Company's respective current views with respect to future events and are necessarily based upon a number of other assumptions and estimates that, while considered reasonable by

management, are inherently subject to significant business, economic, competitive, political and social uncertainties and contingencies. Many factors, both known and unknown, could cause actual results, performance, or achievements to be materially different from the results, performance or achievements that are or may be expressed or implied by such forward-looking statements or forward-looking information and the Company has made assumptions and estimates based on or related to many of these factors. Such factors include, without limitation: precious metals price volatility; risks associated with the conduct of the Company's mining activities; regulatory, consent or permitting delays; risks relating to reliance on the Company's management team and outside contractors; the Company's inability to obtain insurance to cover all risks, on a commercially reasonable basis or at all; currency fluctuations; risks regarding the failure to generate sufficient cash flow from operations; risks relating to project financing and equity issuances; risks and unknowns inherent in all mining projects; contests over title to properties, particularly title to undeveloped properties; laws and regulations governing the environment, health and safety; the ability of the communities in which the Company operates to manage and cope with the implications of public health crises; the economic and financial implications of public health crises to the Company; operating or technical difficulties in connection with mining or development activities; employee relations, labour unrest or unavailability; the Company's interactions with surrounding communities; the speculative nature of exploration and development; stock market volatility; conflicts of interest among certain directors and officers; lack of liquidity for shareholders of the Company; litigation risk; and the factors identified in the Company's public disclosure documents. Readers are cautioned against attributing undue certainty to forward-looking statements or forward-looking information. Although the Company 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 anticipated, estimated or intended. The Company does not intend, and does not assume any obligation, to update these forward-looking statements or forward-looking information to reflect changes in assumptions or changes in circumstances or any other events affecting such statements or information, other than as required by applicable law.

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