# NEWS



# NioCorp Announces Results of Positive Feasibility Study for its Elk Creek Superalloy Materials Project

With 75% of its Ferroniobium Committed for a 10-Year Period, and a Major Federal Government Permit Now in Hand, the Elk Creek Feasibility Study Further De-Risks the Project and Launches it Toward Project Finance

**CENTENNIAL, Colo.** – June 30, 2017 – NioCorp Developments Ltd. ("**NioCorp**" or the "**Company**") (**TSX: NB; OTCQX: NIOBF**; and **FSE: BR3)** is pleased to announce the results of a positive CIM-compliant National Instrument 43-101 Feasibility Study ("FS") for the Company's 100% owned Elk Creek Superalloy Materials Project (the "Project") in Nebraska. The FS work was performed by SRK Consulting (US) Inc., with assistance from Tetra Tech, SMH Process Innovation, MineFill Services, Inc., and Olsson Associates.

# Highlights of the Elk Creek Feasibility Study

(All currency figures are in US \$ unless otherwise noted)

- **Financial Returns:** Pre-tax net present value ("NPV") of \$2.3 billion, at an 8% discount rate, with an internal rate of return ("IRR") of 24.3%, and after-tax NPV of \$1.7 billion, at an 8% discount rate, with an IRR of 21.7%, and an effective tax rate of 24.1%.
- **Revenue:** Gross Life Of Mine ("LOM") revenue of \$17.6 billion, with operating margin of \$12.2 billion.
- **CAPEX:** Up-front direct capital costs of \$705 million, in addition to indirect costs of \$189 million, pre-production capital costs of \$85 million, contingency of \$109 million, and pre-production net revenue credit of \$79 million.
- **EBITDA:** Averaged Earnings Before Interest, Taxes, Depreciation, and Interest ("EBITDA") is \$389.6 million per year over LOM. The averaged EBITDA margin (EBITDA as a percent of total revenue) for the project over LOM is 69.5%.
- **Pre-Tax Payback Period From Production Onset:** 3.4 years (3.7 years after-tax).

# At A Glance (US \$)

Pre-tax NPV: \$2.3 billion, with an IRR of 24.3%.

After-tax NPV: \$1.7 billion, with an IRR of 21.7%.

Gross LOM revenue of \$17.6 billion and operating margin of \$12.2 billion.

Averaged EBITDA is \$389.6 million over LOM. Averaged LOM EBITDA margin of 69.5%.

Mine Life: 32 years.

Payback period from production onset: 3.4 years.

CAPEX: Up-front direct capital costs of \$705 million, in addition to indirect costs of \$189 million, pre-production capital costs of \$85 million, contingency of \$109 million, and pre-production net revenue credit of \$79 million.

- Production: On an annual averaged basis, estimated production and revenues are as follows:
  - Ferroniobium ("FeNb"): annualized production rate of 7,055 tonnes at an averaged realized price of \$39.60 per kilogram ("kg") for contained niobium (65%), yielding annual gross revenue of \$183.4 million.
  - Scandium Trioxide (" $Sc_2O_3$ "): annualized production rate of 103 tonnes at an averaged realized price of \$3,675/kg of  $Sc_2O_3$ , yielding annual gross revenue of \$378.3 million.
  - Titanium Dioxide ("TiO<sub>2</sub>"): annualized production rate of 11,445 tonnes per year at an averaged realized price of \$0.88/kg TiO<sub>2</sub>, yielding annual gross revenue of \$10.1 million.
- **Production Costs** (net of TiO<sub>2</sub> byproduct credit):
  - \$12.14/kg of niobium on a niobium-equivalent basis.
  - \$1,127/kg of  $Sc_2O_3$  on a  $Sc_2O_3$ -equivalent basis.
- **Mine Life:** 32 years, producing over the LOM approximately 143,824 tonnes of payable niobium, 3,237 tonnes of Sc<sub>2</sub>O<sub>3</sub>, and 359,128 tonnes of TiO<sub>2</sub>.
- **Mineral Resources and Reserves**: Probable reserves of 31.7 million tonnes of ore at 0.79% niobium (Nb<sub>2</sub>O<sub>5</sub>), 71.6 grams per tonne (g/t) scandium (Sc), and 2.81% TiO<sub>2</sub>. Total indicated mineral resources are 90.9 million tonnes at 0.66% Nb<sub>2</sub>O<sub>5</sub>, 70 g/t Sc, and 2.59% TiO<sub>2</sub>, with inferred resources of 133.6 million tonnes at 0.48% Nb<sub>2</sub>O<sub>5</sub>, 59 g/t Sc, and 2.23% TiO<sub>2.11</sub> Mineral Resources are reported inclusive of Mineral Reserves. Mineral Resources and Mineral Reserves have an effective date of May 15, 2017.

"After a little more than three years of intense work and detailed independent analysis by dozens of technical experts, the Elk Creek Project feasibility study significantly de-risks this project and positions us to advance to the next stages – project financing and eventual construction start," said NioCorp Executive Chair and CEO, Mark A. Smith, P.E., Esq.

"The primary goal of any project feasibility study is to derisk the proposed project such that financing can be obtained," said Mr. Smith. "This feasibility study accomplishes that core goal. Coupled with the fact that we have commitments for 75% of our ferroniobium over the first 10 years – 50% going to ThyssenKrupp Metallurgical Products and 25% going to CMC Cometals of New Jersey – and that we have in hand a major federal government permit, this project is significantly de-risked at this stage. In particular, it will allow us to continue ongoing discussions with potential institutional investors in Europe and elsewhere, including with the German Government's loan guarantee program, for which the Elk Creek Project has already received in-principle eligibility."

SUMMARY OF ECONOMIC RESULTS i							
Indicator	Amount						
Before-Tax							
Free Cash Flow	\$10.7 billion						
NPV @ 8%	\$2.3 billion						
IRR	24.3%						
After-Tax							
Free Cash Flow	\$7.9 billion						
NPV @ 8%	\$1.7 billion						
IRR	21.7%						

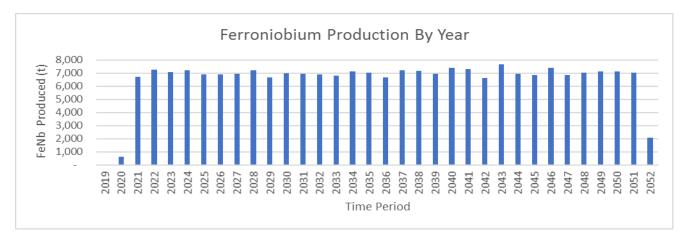
"I'm also very proud of the fact that Scott Honan and his team were able to complete this feasibility study in a little over three years," Mr. Smith said. "This is particularly impressive given that it typically takes 8-10 years for most other companies in this industry to achieve feasibility status on similar-scaled projects."

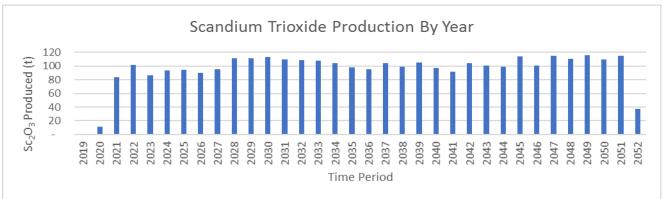
## **FEASIBILITY STUDY DETAILS**

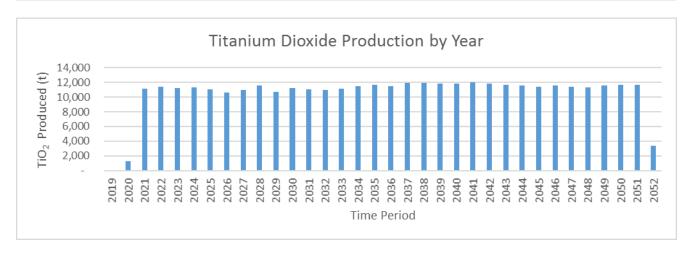
Description	Value
Ore Mined (kt)	31,661
Waste Mined (kt)	1,484
Total Material Mined (kt)	33,145
Mining Rate (t/d)	2,762
Nb <sub>2</sub> O <sub>5</sub> Grade	0.79%
TiO <sub>2</sub> Grade	2.81%
Scandium Grade (g/t)	71.6
Contained Nb <sub>2</sub> O <sub>5</sub> (kt)	250
Contained TiO <sub>2</sub> (kt)	891
Contained Sc (t)	2,266
Total Ore Processed (kt)	31,661
Processing Rate (kt/y)	1,009
Average Recovery, Nb <sub>2</sub> O <sub>5</sub>	82.4%
Average Recovery TiO <sub>2</sub>	40.3%
Average Recovery Sc	93.1%
Recovered Nb <sub>2</sub> O <sub>5</sub> (kt)	214
Recovered TiO <sub>2</sub> (kt)	359
Recovered Sc (t)	2,111
Realized Product Prices	
Nb	\$39.60
TiO <sub>2</sub>	\$0.88
Sc <sub>2</sub> O <sub>3</sub>	\$3,675
Payable Metal	
Nb (t)	143,824
TiO <sub>2</sub> (t)	359,128
Sc <sub>2</sub> O <sub>3</sub> (t)	3,237
Total Gross Revenue	\$17.9 billion

#### **PRODUCTION PLAN**

The FS assumes that the facility will produce 7,055 tonnes per year of ferroniobium, 103 tonnes of  $Sc_2O_3$ , and 11,445 tonnes of  $TiO_2$ , all on an annualized basis. The following graphs show estimated annual production by commercial product.





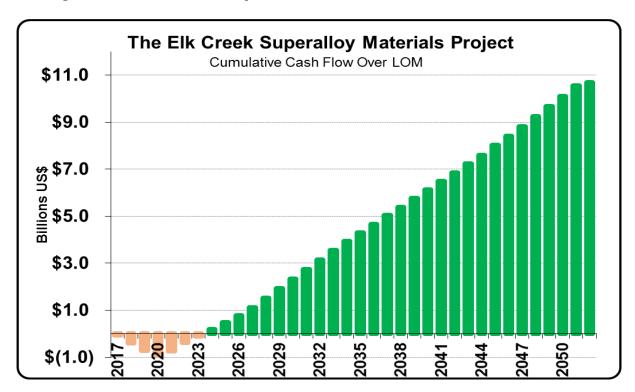


#### **OPERATIONS AND FINANCIAL PROFILE**

The following table summarizes assumptions and estimated results from the FS economic model:

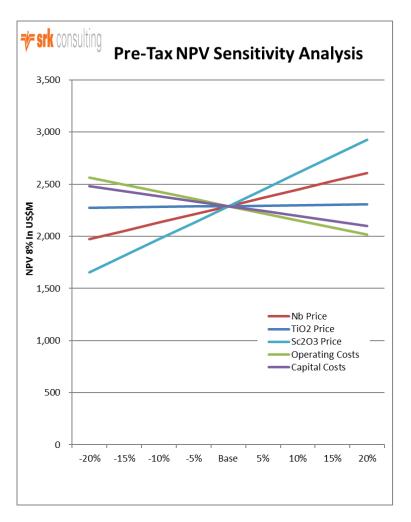
Calendar Year		2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2040	2050
Production													
Niobium	t-Nb	4,326	4,733	4,621	4,711	4,490	4,496	4,523	4,711	4,353	4,531	4,820	4,652
Titanium	t-TiO <sub>2</sub>	11,119	11,431	11,278	11,347	11,047	10,605	10,994	11,553	10,730	11,231	11,880	11,643
Scandium	kg-Sc <sub>2</sub> O <sub>3</sub>	83	102	86.5	93.8	94.2	90.5	95.5	110.6	111.8	113.3	97.2	110.3
Realized Pricing													
Niobium	\$/kg	\$38.26	\$39.42	\$38.62	\$39.22	\$38.14	\$39.09	\$38.99	\$39.22	\$38.66	\$38.96	\$40.00	\$40.00
Titanium	\$/kg	\$0.88	\$0.88	\$0.88	\$0.88	\$0.88	\$0.88	\$0.88	\$0.88	\$0.88	\$0.88	\$0.88	\$0.88
Scandium	\$/kg	\$4,000	\$3,500	\$3,000	\$3,100	\$3,200	\$3,400	\$3,600	\$3,750	\$3,750	\$3,750	\$3,750	\$3,750
Gross Revenues	(\$M)	\$509	\$552	\$448	\$486	\$482	\$493	\$530	\$610	\$597	\$611	\$568	\$610
Total Opex (\$M)		(\$136)	(\$173)	(\$176)	(\$174)	(\$180)	(\$172)	(\$179)	(\$181)	(\$178)	(\$181)	(\$188)	(\$180)
EBITDA (\$M)		\$373	\$379	\$272	\$311	\$302	\$321	\$351	\$429	\$419	\$430	\$380	\$430
EBITDA Margin		73%	69%	61%	64%	63%	65%	66%	70%	70%	70%	67%	70%
Operating CF (\$N	M)	\$346	\$342	\$254	\$275	\$263	\$274	\$298	\$355	\$332	\$329	\$281	\$311
EBT (\$M)		\$163	\$88	\$61	\$117	\$141	\$162	\$189	\$283	\$302	\$309	\$308	\$302
Net Income (\$M	1)	\$158	\$56	\$38	\$81	\$99	\$117	\$137	\$211	\$213	\$209	\$172	\$201
Income Margin		31%	10%	9%	17%	21%	24%	26%	35%	36%	34%	30%	33%

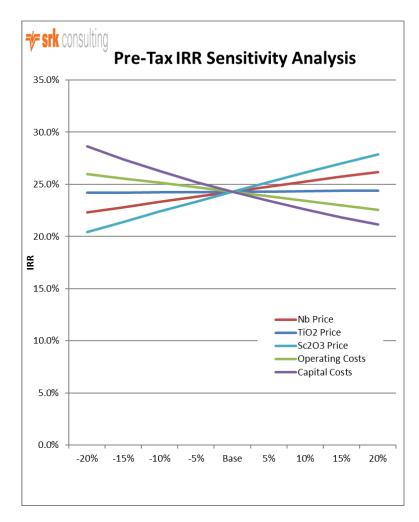
The following shows the cumulative LOM pre-tax free cash flow:



### **ECONOMIC SENSITIVITY ANALYSIS**

The following pre-tax economic sensitivity analyses show potential impacts to NPV and IRR from changes in the pricing of niobium, scandium, and titanium, as well as changes in CAPEX and OPEX.

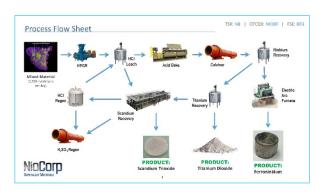




#### **SUPERALLOY PRODUCTION**

The Project is planned as a high-grade underground mining operation using a long-hole stoping mining method and paste backfill. The Elk Creek mine is planned to operate with a processing rate of 2,762 tonnes per day, for a total of 31.7 million tonnes of ore processed over 32 years of mine life, producing in that period 143,824 tonnes of payable niobium, 3,237 tonnes of scandium ( $Sc_2O_3$ ), and 359,128 tonnes of titanium ( $TiO_2$ ).

The process flow sheet at right illustrates a high-level summary of how the facility will convert ore to finished product.



Process Flow Sheet (click to enlarge)

## **UPFRONT FINANCING REQUIREMENTS**

Up-front direct capital costs, indirect costs, pre-production capital costs, contingency, and pre-production net revenue credit are detailed below.

Total Estimated CAPEX by Major Areas					
Description	Initial CAPEX				
	(US\$ millions)				
Capitalized Pre-Production Expense	\$71				
Process Commissioning	14				
Subtotal Preproduction Costs	85				
Site Preparation and Infrastructure	40				
Processing Plant	367				
Mine Water Management	100				
Mining Infrastructure	179				
Tailings Management	20				
Subtotal Direct Costs	705				
Site Wide	7				
Processing	99				
Mining	34				
Owner's Costs	38				
Mine Water Management	11				
Subtotal Indirect Costs	189				
Project Total Before Contingency	979				
Contingency of 11.1%	109				
Preproduction Net Revenue Credit*	(79)				
Project Total** \$1,0					

<sup>\*</sup>Revenue from sales occurring during commissioning and ramp-up phases.

<sup>\*\*</sup>Does not include Initial Working Capital (A/R, A/P, & Inv) of \$30 million in Yrs. -1 and +1.

#### MINERAL RESERVES

(Effective date of May 15, 2017)

Description	Tonnes (kt)	Nb <sub>2</sub> O <sub>5</sub> (%)	TiO <sub>2</sub> (%)	Sc (g/t)	
Proven	-	-	-	-	
Probable	31,661	0.79	2.81	71.58	
P+P	31,661	0.79	2.81	71.58	

Source: SRK, 2017. All figures rounded to reflect the relative accuracy of the estimates. Totals may not sum due to rounding.

- The Project is amenable to Underground longhole open stoping mining methods. Using results from metallurgical test work, suitable underground mining and processing costs, and forecast product pricing SRK has reported the Mineral Reserve at a NSR cut-off of US\$180/t.
- 2. NSR uses the following factors (these factors vary somewhat from the final economic model, however SRK believes the differences are immaterial):
  - Nb<sub>2</sub>O<sub>5</sub>: 0.699 is conversion from Nb2O5 to Nb, 1,000 is kg conversion, 85.8% is the hydromet plant recovery, 96% is the pyromet plant recovery, 100% payability, assuming a US\$38.5 kg selling price.
  - TiO<sub>2</sub>: 1,000 is kg conversion, 40.3% is metallurgical recovery, assuming 100% payability, assuming a US\$0.88/kg is selling price.
  - Sc: 93.1% is metallurgical recovery, 100% payability, US\$3,500 kg is selling price per kg of scandium oxide, with a conversion of 0.652 is the amount of Sc in  $Sc_2O_3$ .
- 3. Ore reserves have been stated on the basis of a mine design, mine plan, and cash-flow model.
- 4. Mining recovery applied ranges from 94% to 100%.
- 5. Mining dilution (internal and external). External stope dilution is 6%, and a portion of the external stope dilution is applied using grade values based on average surrounding block information. A development dilution of 5% is used at a 0% ore grade.

#### **MINERAL RESOURCES**

(Effective date of May 15, 2017)

Classification	Cut-off NSR (US\$/t)	Tonnage (000's t)	Grade (Nb <sub>2</sub> O <sub>5</sub> %)	Contained Nb <sub>2</sub> O <sub>5</sub> ( t)	Grade (TiO <sub>2</sub> %)	Contained TiO <sub>2</sub> (t)	Grade (Sc g/t)	Contained Sc ( t)
Indicated	180	90,900	0.66	598,400	2.59	2,353,300	70	6,300
Inferred	180	133,600	0.48	643,800	2.23	2,985,300	59	7,800

Source: SRK, 2017. All figures rounded to reflect the relative accuracy of the estimates. Totals may not sum due to rounding.

- 1. Mineral Resources are reported inclusive of the Mineral Reserve. Mineral Resources are not Mineral Reserves and do not have demonstrated economic viability. All figures are rounded to reflect the relative accuracy of the estimate and have been used to derive sub-totals, totals and weighted averages. Such calculations inherently involve a degree of rounding and consequently introduce a margin of error. Where these occur, SRK does not consider them to be material. All composites have been capped where appropriate. Historical samples have been validated via re-assay programs, and all drilling completed by Niocorp has been subjected to QA/QC. All composites have been capped where appropriate, and estimates completed using Ordinary Kriging. The Concession is wholly owned by and exploration is operated by NioCorp Developments Ltd.
- 2. The reporting standard adopted for the reporting of the MRE uses the terminology, definitions and guidelines given in the Canadian Institute of Mining, Metallurgy and Petroleum (CIM) Standards on Mineral Resources and Mineral Reserves (May 10, 2014) as required by NI 43-101.
- 3. The Project is amenable to Underground longhole open stoping mining methods. Using results from metallurgical test work, Using results from metallurgical test work, suitable underground mining and processing costs, and forecast product pricing SRK has reported the Mineral Resource at a NSR cut-off of US\$ 180/t.
- 4. NSR uses the following factors (these factors vary somewhat from the final economic model, however SRK believes the differences are immaterial):

- Nb<sub>2</sub>O<sub>5</sub>: 0.699 is conversion from Nb<sub>2</sub>O<sub>5</sub> to Nb, 1000 is kg conversion, 85.5% is plant recovery, 96% accounts for the loss in the plant, 100% payability, assuming a US\$ 38.5 kg selling price.
- TiO<sub>2</sub>: 1000 is kg conversion, 40.3% is metallurgical recovery, assuming 100% payability, assuming a US\$ 0.88/kg is selling price.
- Sc: 93.1% is metallurgical recovery, 100% payability, US\$ 3,500 kg is selling price per kg of scandium oxide, with a conversion of 0.652 for the amount of Sc in  $Sc_2O_3$ .
- Price assumptions for FeNb, Sc<sub>2</sub>O<sub>3</sub>, and TiO<sub>2</sub> are based upon independent market analyses for each product.
- 5. SRK Completed a site inspection of the deposit by Mr. Martin Pittuck, MSc, CEng, MIMMM, an appropriate "independent qualified person" as this term is defined in NI 43-101.

#### **NEXT STEPS**

- The NI-43-101 Technical Report for the Project is expected to be filed on SEDAR within the next 45 days, and also will be available at <a href="https://www.niocorp.com">www.niocorp.com</a>.
- Acceleration of ongoing Project finance efforts, including on the Company's application for a loan guarantee from the German Government.
- Continue conducting due diligence and technical review by the Independent Technical Engineer.
- Ongoing efforts to secure necessary government permits for the Project will continue. Major permits needed prior to the onset of construction start include these:
  - o **SECURED:** U.S. Army Corp of Engineers' (USACE) Section 404 permit for the Project Waterline (except the outfall section).
  - o USACE Sections 408 and 404 permits for the Project Waterline outfall section.
  - o Air construction permit from the State of Nebraska.
  - o NPDES discharge permit from the State of Nebraska.
  - o Industrial waste permit from the State of Nebraska for tailings disposal.
  - Other permits will be needed for completion of construction.
- Continuation of detailed engineering with current firms.
- Selection of firms for next phases of Project (e.g., engineering, procurement, construction, and other activities).

## NOTES ON THE MINERAL RESOURCE, MINERAL RESERVE AND FEASIBILITY STUDY

The Mineral Resource and Mineral Reserve estimates in this news release have been prepared in accordance with Canadian National Instrument 43-101 - Standards of Disclosure for Mineral Projects ("NI 43-101"), classified in accordance with Canadian Institute of Mining Metallurgy and Petroleum's "CIM Definition Standards for Mineral Resources and Mineral Reserves" 2014.

# **QUALIFIED PERSONS**

The following qualified persons have read and approved the technical information and verified the data contained in those portions of this news release specific to their area of responsibility:

Qualified Person	Area of Responsibility
Jeff Osborn, BSc Mining, MMSAQP SRK Consulting	Elk Creek SRK Project Manager and mining infrastructure operating and capital cost
Grant Malensek, MEng, PEng/PGeo SRK Consulting	Elk Creek capital and operating costs and economic analysis
Ben Parsons, MSc, MAusIMM (CP) SRK Consulting	Elk Creek resource estimate
Joanna Poeck, B.Eng., SME-RM, MMSA-QP SRK Consulting	Elk Creek mine plan and reserves
John Tinucci, PhD, PE SRK Consulting	Elk Creek geotechnical program
Mark Willow, M.Sc., C.E.M., SME-RM SRK Consulting	Environmental studies, permitting and social or community impact portions of the Elk Creek project
Paul Williams, PG, CPH, SME-RM SRK Consulting	Elk Creek hydrogeology program
Clara Balasko, P.E, SRK Consulting	Elk Creek tailings design
Martin Pittuck, CEng, FGS, MIMMM SRK Consulting	Elk Creek resource estimate
David Stone, PE MineFill Services, Inc.	Elk Creek project mine backfill system
Eric Larochelle, B.Eng SMH Process	Elk Creek hydrometallurgical design
Arun Vathavooran, PhD CEng MIMMM SME Tetra Tech	Elk Creek mineral processing design
Sylvain Harton, Eng. Tetra Tech	Elk Creek pyrometallurgical design
David Winters, SE, PE, MBA Tetra Tech	Elk Creek infrastructure design
Joe Baxter, P.E Olsson Associates	Elk Creek offsite infrastructure design

Source: NioCorp Developments Ltd. @NioCorp \$NB \$NIOBF #Niobium #Scandium #ElkCreek

#### For More Information:

Contact Jim Sims, VP of External Affairs, NioCorp Developments Ltd., 720-639-4650, jim.sims@niocorp.com

#### **About NioCorp**

NioCorp is developing a superalloy materials project in Southeast Nebraska that will produce Niobium, Scandium, and Titanium. Niobium is used to produce superalloys as well as High Strength, Low Alloy ("HSLA") steel, which is a lighter, stronger steel used in automotive, structural, and pipeline applications. Scandium is a superalloy material that can be combined with Aluminum to make alloys with increased strength and improved corrosion resistance. Scandium also is a critical component of advanced solid oxide fuel cells. Titanium is used in various superalloys and is a key component of pigments used in paper, paint and plastics and is also used for aerospace applications, armor and medical implants.

#### **Cautionary Note Regarding Forward-Looking Statements**

Neither TSX nor its Regulation Services Provider (as that term is defined in the policies of the TSX) accepts responsibility for the adequacy or accuracy of this document. Certain statements contained in this document may constitute forward-looking statements, including statements regarding the results of the feasibility study, including, but not limited to, metal price and exchange rate assumptions, cash flow 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 content of deposits, and the extent of the resource and reserves estimates; potential production from and viability of the Project; 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 are based upon NioCorp's reasonable expectations and business plan at the date hereof, which are subject to change depending on economic, political and competitive circumstances and contingencies. Readers are cautioned that such forward-looking statements involve known and unknown risks, uncertainties and other factors that may cause a change in such assumptions and the actual outcomes and estimates to be materially different from those estimated or anticipated future results, achievements or position expressed or implied by those forward-looking statements. Risks, uncertainties and other factors that could cause NioCorp's plans or prospects to change include risks related to the Company's ability to operate as a going concern; risks related to the Company's requirement of significant additional capital; changes in demand for and price of commodities (such as fuel and electricity) and currencies; changes in economic valuations of the Project, such as Net Present Value calculations, changes or disruptions in the securities markets; legislative, political or economic developments; the need to obtain permits and comply with laws and regulations and other regulatory requirements; the possibility that actual results of work may differ from projections/expectations or may not realize the perceived potential of NioCorp's projects; risks of accidents, equipment breakdowns and labor disputes or other unanticipated difficulties or interruptions; the possibility of cost overruns or unanticipated expenses in development programs; operating or technical difficulties in connection with exploration, mining or development activities; the speculative nature of mineral exploration and development, including the risks of diminishing quantities of grades of reserves and resources; and the risks involved in the exploration, development and mining business and the risks set forth in the Company's filings with the SEC at www.sec.gov. NioCorp disclaims any intention or obligation to update or revise any forward-looking statements whether as a result of new information, future events or otherwise.

<sup>&</sup>lt;sup>i</sup> This document includes certain forward-looking non-GAAP financial measures, including EBITDA and Free Cash Flow. Reconciliations of these forward-looking non-GAAP financial measures to the most directly comparable GAAP financial measures are not provided because the Company is unable to provide such reconciliations without unreasonable effort, due to the

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uncertainty and inherent difficulty of predicting the occurrence and the financial impact of such items impacting comparability and the periods in which such items may be recognized. For the same reasons, the Company is unable to address the probable significance of the unavailable information, which could be material to future results.

ii Mineral Resources are not Mineral Reserves and do not have demonstrated economic viability. All figures are rounded to reflect the relative accuracy of the estimate and have been used to derive sub-totals, totals and weighted averages. Such calculations inherently involve a degree of rounding and consequently introduce a margin of error. Where these occur, SRK does not consider them to be material. All composites have been capped where appropriate. The reporting standard adopted for the reporting of the MRE uses the terminology, definitions and guidelines given in the Canadian Institute of Mining, Metallurgy and Petroleum Standards on Mineral Resources and Mineral Reserves (May 10, 2014) as required by NI 43-101.