

Elk Creek S-K 1300 Mineral Resource¹

(MINERAL RESOURCE AS OF June 30, 2022)

Elk Creek 2022 In Situ Mineral Resource Estimate (niobium, titanium, and scandium) excluding reserves				
Classification	NSR Cutoff (US\$/tonne)	Tonnage (Mt)	Grades	Tonnages
Indicated	180	151.7	Nb2O5 (%)	Nb2O5 (kt)
			0.43	649.8
			TiO2 (%)	TiO2 (kt)
			2.02	3,067
			Sc (ppm)	Sc (t)
56.42	8,558			
Inferred	180	108.3	Nb2O5 (%)	Nb2O5 (kt)
			0.39	426.6
			TiO2 (%)	TiO2 (kt)
			1.92	2,082
			Sc (ppm)	Sc (t)
52.28	5,660			

Notes:

- Classification of Mineral Resources in the above tables is in accordance with the S-K 1300 classification system. Mineral Resources in this table are reported exclusive of Mineral Reserves
- Mineral Resources that are not Mineral Reserves do not have demonstrated economic viability.
- The Mineral Resources are reported at a Diluted Net Smelter Return (NSR) Cut-off of US \$180/tonne.
- The diluted NSR is defined as:
 - Diluted NSR (U.S. \$) =
$$\frac{\text{Revenue per block Nb}_2\text{O}_5 \text{ (diluted)} + \text{Revenue per block TiO}_2 \text{ (diluted)} + \text{Revenue per block Sc (diluted)}}{\text{Diluted tonnes per block}}$$
 - The diluted revenue from Nb₂O₅, TiO₂, and Sc per block used the following factors:
 - Nb₂O₅ Revenue: a 94% grade recovery, a 0.696 factor to convert Nb₂O₅ to Nb, 82.36% assumption for plant recovery, and a US\$ 39.60 selling price per kg of ferroniobium as of June 30, 2022.
 - TiO₂ Revenue: a 94% grade recovery, a 40.31% assumption for plant recovery, and a US\$ 0.88 selling price per kg of titanium oxide as of June 30, 2022.
 - Sc Revenue: a 94% grade recovery, a 1.534 factor to convert Sc to Sc₂O₃, 93.14% assumption for plant recovery, and a US\$ 3,675 kg selling price per kg of scandium oxide as of June 30, 2022.
 - The diluted tonnes are a 6% increase in the total tonnes of the block.
- Price assumptions for FeNb, Sc₂O₃, and TiO₂ are based upon independent market analyses for each product.
- Numbers may not sum due to rounding. The rounding is not considered to be material.
- Rare Earth Oxides (REO) were evaluated as a potential by-product to the mining of niobium, titanium, and scandium; thus the estimated values of the REOs are reported using the previously determined diluted NSR as derived from the Nb₂O₅, TiO₂, and Sc Mineral Resources and are assigned a price of \$0.
- The stated Light Rare Earth Oxides (LREO) grade (%) is the summation of La₂O₃ (%), Ce₂O₃ (%), Pr₂O₃ (%), and Nd₂O₃ (%) estimates.
- The stated Heavy Rare Earth Oxides (HREO) grade (%) is the summation of Sm₂O₃ (%), Eu₂O₃ (%), Gd₂O₃ (%), Tb₂O₃ (%), Dy₂O₃ (%), Ho₂O₃ (%), Er₂O₃ (%), Tm₂O₃ (%), Yb₂O₃ (%), Lu₂O₃ (%), and Y₂O₃ (%) estimates.
- The stated Total Rare Earth Oxide (TREO) grade (%) is the summation of LREO (%) and HREO (%).

NOTE: The Qualified Person for the Mineral Resource estimate is Understood Mineral Resources Ltd. The estimate has an effective date of June 30, 2022.

¹ Based on the S-K 1300 Elk Creek Technical Report Summary. See “Mineral Reserves and Resources” in the Disclaimers & Technical Disclosures at the beginning of this presentation.

Elk Creek S-K 1300 REE Mineral Resource¹

(MINERAL RESOURCE AS OF JUNE 30, 2022)

Elk Creek 2022 In Situ Mineral Resource Estimate (rare earth oxides) excluding reserves								
Class	NSR Cut-off	Tonnage (Mt)	La2O3 (%)	La2O3 (kt)	Ce2O3 (%)	Ce2O3 (kt)	Pr2O3 (%)	Pr2O3 (kt)
Indicated	180	151.7	0.0766	116.2	0.1320	200.2	0.0140	21.3
			Nd ₂ O ₃ (%)	Nd ₂ O ₃ (kt)	Sm ₂ O ₃ (%)	Sm ₂ O ₃ (kt)	Eu ₂ O ₃ (%)	Eu ₂ O ₃ (kt)
			0.0511	77.5	0.0116	17.6	0.0040	6.0
			Gd2O3 (%)	Gd2O3 (kt)	Tb2O3 (%)	Tb2O3 (kt)	Dy2O3 (%)	Dy2O3 (kt)
			0.0096	14.6	0.0011	1.6	0.0044	6.7
			Ho2O3 (%)	Ho2O3 (kt)	Er2O3 (%)	Er2O3 (kt)	Tm2O3 (%)	Tm2O3 (kt)
			0.0006	1.0	0.0015	2.2	0.0002	0.3
			Yb2O3 (%)	Yb2O3 (kt)	Lu2O3 (%)	Lu2O3 (kt)	Y2O3 (%)	Y2O3 (kt)
			0.0010	1.5	0.0001	0.2	0.0187	28.4
			LREO (%)	LREO (kt)	HREO (%)	HREO (kt)	TREO (%)	TREO (kt)
0.2737	415.2	0.0528	80.0	0.3265	495.2			
Class	NSR Cut-off	Tonnage (Mt)	La2O3 (%)	La2O3 (kt)	Ce2O3 (%)	Ce2O3 (kt)	Pr2O3 (%)	Pr2O3 (kt)
Inferred	180	108.3	0.0943	102.1	0.1576	170.6	0.0163	17.7
			Nd ₂ O ₃ (%)	Nd ₂ O ₃ (kt)	Sm ₂ O ₃ (%)	Sm ₂ O ₃ (kt)	Eu ₂ O ₃ (%)	Eu ₂ O ₃ (kt)
			0.0575	62.2	0.0116	12.6	0.0038	4.1
			Gd2O3 (%)	Gd2O3 (kt)	Tb2O3 (%)	Tb2O3 (kt)	Dy2O3 (%)	Dy2O3 (kt)
			0.0090	9.8	0.0010	1.1	0.0042	4.6
			Ho2O3 (%)	Ho2O3 (kt)	Er2O3 (%)	Er2O3 (kt)	Tm2O3 (%)	Tm2O3 (kt)
			0.0006	0.7	0.0014	1.5	0.0002	0.2
			Yb2O3 (%)	Yb2O3 (kt)	Lu2O3 (%)	Lu2O3 (kt)	Y2O3 (%)	Y2O3 (kt)
			0.0010	1.1	0.0001	0.1	0.0182	19.7
			LREO (%)	LREO (kt)	HREO (%)	HREO (kt)	TREO (%)	TREO (kt)
0.3257	352.6	0.0512	55.5	0.3769	408.1			

NOTE: The Qualified Person for the Mineral Resource estimate is Understood Mineral Resources Ltd. The estimate has an effective date of June 30, 2022.

Notes:

- Classification of Mineral Resources in the above tables is in accordance with the S-K 1300 classification system. Mineral Resources in this table are reported exclusive of Mineral Reserves
- Mineral Resources that are not Mineral Reserves do not have demonstrated economic viability.
- The Mineral Resources are reported at a Diluted Net Smelter Return (NSR) Cut-off of US \$180/tonne.
- The diluted NSR is defined as:
 - Diluted NSR (U.S. \$) =
$$\frac{\text{Revenue per block Nb}_2\text{O}_5 \text{ (diluted)} + \text{Revenue per block TiO}_2 \text{ (diluted)} + \text{Revenue per block Sc (diluted)}}{\text{Diluted tonnes per block}}$$
 - The diluted revenue from Nb₂O₅, TiO₂, and Sc per block used the following factors:
 - Nb₂O₅ Revenue: a 94% grade recovery, a 0.696 factor to convert Nb₂O₅ to Nb, 82.36% assumption for plant recovery, and a US\$ 39.60 selling price per kg of ferroniobium as of June 30, 2022.
 - TiO₂ Revenue: a 94% grade recovery, a 40.31% assumption for plant recovery, and a US\$ 0.88 selling price per kg of titanium oxide as of June 30, 2022.
 - Sc Revenue: a 94% grade recovery, a 1.534 factor to convert Sc to Sc₂O₃, 93.14% assumption for plant recovery, and a US\$ 3,675 kg selling price per kg of scandium oxide as of June 30, 2022.
 - The diluted tonnes are a 6% increase in the total tonnes of the block.
- Price assumptions for FeNb, Sc₂O₃, and TiO₂ are based upon independent market analyses for each product.
- Numbers may not sum due to rounding. The rounding is not considered to be material.
- Rare Earth Oxides (REO) were evaluated as a potential by-product to the mining of niobium, titanium, and scandium; thus the estimated values of the REOs are reported using the previously determined diluted NSR as derived from the Nb₂O₅, TiO₂, and Sc Mineral Resources and are assigned a price of \$0.
- The stated Light Rare Earth Oxides (LREO) grade (%) is the summation of La₂O₃ (%), Ce₂O₃ (%), Pr₂O₃ (%), and Nd₂O₃ (%) estimates.
- The stated Heavy Rare Earth Oxides (HREO) grade (%) is the summation of Sm₂O₃ (%), Eu₂O₃ (%), Gd₂O₃ (%), Tb₂O₃ (%), Dy₂O₃ (%), Ho₂O₃ (%), Er₂O₃ (%), Tm₂O₃ (%), Yb₂O₃ (%), Lu₂O₃ (%), and Y₂O₃ (%) estimates.
- The stated Total Rare Earth Oxide (TREO) grade (%) is the summation of LREO (%) and HREO (%)
- The effective date of the Mineral Resource, including by-products, is June 30, 2022

Elk Creek S-K 1300 Mineral Reserve¹

(not including REE production)

(MINERAL RESERVE AS OF May 10, 2022)

Underground In Situ Mineral Reserves Estimate for Elk Creek										
Classification	Tonnage (Kt)	Nb ₂ O ₅ Grade (%)	Contained Nb ₂ O ₅ (t)	Payable Nb (t)	TiO ₂ Grade (%)	Contained TiO ₂ (t)	Payable TiO ₂ (t)	Sc Grade (ppm)	Contained Sc (t)	Payable Sc ₂ O ₃ (t)
Proven	-	-	-	-	-	-	-	-	-	-
Probable	36,656	0.81	297,278	170,409	2.92	1,071,182	431,793	70.2	2,573	3,677
TOTAL	36,656	0.81	297,278	170,409	2.92	1,071,182	431,793	70.2	2,573	3,677

NOTES

- The Qualified Person for the Mineral Reserve estimate is Richard Jundis, P.Eng., of Optimize Group Inc. The estimate has an effective date of May 3rd, 2022.
- The Mineral Reserve is based on the mine design and mine plan, utilizing an average cut-off grade of 0.679% Nb₂O₅ with an NSR of US\$ 180/mt.
- The estimate of Mineral Reserves may be materially affected by metal prices, environmental, permitting, legal, title, taxation, socio-political, marketing, infrastructure development, or other relevant issues.
- The economic assumptions used to define Mineral Reserve cut-off grade are as follows:
 - Annual life of mine (LOM) average production rate of ~7,450 tonnes of FeNb/annum in the years of full production,
 - Mining dilution of ~6% was applied to all stopes and development, based on 3% for the primary stopes, 9% for the secondary stopes, and 5% for ore development.
 - Mining recoveries of 95% were applied in longhole stopes and 62.5% in sill pillar stopes.

Parameter	Value	Unit
Mining Cost	42.38	US\$/t mined
Processing	106.70	US\$/t mined
Water Management and Infrastructure	16.62	US\$/t mined
Tailings Management	2.01	US\$/t mined
Other Infrastructure	5.47	US\$/t mined
General and Administrative	8.91	US\$/t mined
Royalties/Annual Bond Premium	8.34	US\$/t mined
Other Costs	6.29	US\$/t mined
Total Cost	196.72	US\$/t mined
Nb ₂ O ₅ to Niobium conversion	69.60	%
Niobium Process Recovery	82.36	%
Niobium Price	39.60	US\$/kg
TiO ₂ Process Recovery	40.31	%
TiO ₂ Price	0.88	US\$/kg
Sc Process Recovery	93.14	%
Sc to Sc ₂ O ₃ conversion	153.40	%

- Price assumptions for FeNb, Sc₂O₃, and TiO₂ are based upon independent market analyses for each product.
- Price and cost assumptions are based on the pricing of products at the "mine-gate," with no additional down-stream costs required. The assumed products are a ferroniobium product (metallic alloy shots consisting of 65%Nb and 35% Fe), a titanium dioxide product in powder form, and scandium trioxide in powder form.
- The Mineral Reserve has an average LOM NSR of US\$ 563.06/tonne.
- Richard Jundis has provided detailed estimates of the expected costs based on the knowledge of the style of mining (underground) and potential processing methods (by 3rd party Qualified Persons).
- Mineral reserve effective date May 10th, 2022. The financial model was run post-February 2019, which reflects a total cost per tonne of US\$ 196.72 versus US\$ 189.91 (May 20, 2022 Mineral Reserve Details Table above). This is not considered a material change.
- Price variances for commodities are based on updated independent market studies versus earlier projected pricing. The updated independent market studies do not have a negative effect on the reserve.

Elk Creek S-K 1300 Mineral Reserve¹

(not including REE production)

(MINERAL RESERVE AS OF June 30, 2022)

Underground In Situ Mineral Reserves Estimate for Elk Creek										
Classification	Tonnage (Kt)	Nb ₂ O ₅ Grade (%)	Contained Nb ₂ O ₅ (t)	Payable Nb (t)	TiO ₂ Grade (%)	Contained TiO ₂ (t)	Payable TiO ₂ (t)	Sc Grade (ppm)	Contained Sc (t)	Payable Sc ₂ O ₃ (t)
Proven	-	-	-	-	-	-	-	-	-	-
Probable	36,656	0.81	297,278	170,409	2.92	1,071,182	431,793	70.2	2,573	3,677
TOTAL	36,656	0.81	297,278	170,409	2.92	1,071,182	431,793	70.2	2,573	3,677

NOTES

- The Qualified Person for the Mineral Reserve estimate is Optimize Group Inc. The estimate has an effective date of June 30, 2022.
- The Mineral Reserve is based on the mine design, mine plan, and cash-flow model utilizing an average cut-off grade of 0.679% Nb₂O₅ with an NSR of US\$ 180/t.
- The estimate of Mineral Reserves may be materially affected by metal prices, environmental, permitting, legal, title, taxation, socio-political, marketing, infrastructure development, or other relevant issues.
- The economic assumptions used to define Mineral Reserve cut-off grade are as follows:
 - Annual life of mine (LOM) production rate of ~7,450 tonnes of FeNb/annum during the years of full production.
 - Initial elevated five-year production rate ~ 7,500 tonnes of FeNb/annum when full production is reached.
 - Mining dilution of ~6% was applied to all stopes and development, based on 3% for the primary stopes, 9% for the secondary stopes, and 5% for ore development.
 - Mining recoveries of 95% were applied in longhole stopes and 62.5% in sill pillar stopes.

Parameter	Value	Unit
Mining Cost	42.38	US\$/t mined
Processing	106.70	US\$/t mined
Water Management and Infrastructure	16.62	US\$/t mined
Tailings Management	2.01	US\$/t mined
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Royalties/Annual Bond Premium	8.34	US\$/t mined
Other Costs	6.29	US\$/t mined
Total Cost	196.72	US\$/t mined
Nb ₂ O ₅ to Niobium conversion	69.60	%
Niobium Process Recovery	82.36	%
Niobium Price	39.60	US\$/kg
TiO ₂ Process Recovery	40.31	%
TiO ₂ Price	0.88	US\$/kg
Sc Process Recovery	93.14	%
Sc to Sc ₂ O ₃ conversion	153.40	%
Sc Price	3,675.00	US\$/kg

- Price assumptions are as follows: FeNb US\$ 39.60/kg Nb, Sc₂O₃ US \$3,675/kg, and TiO₂ US \$0.88/kg. Price assumptions are based upon independent market analyses for each product as of June 30, 2022
- Price and cost assumptions are based on the pricing of products at the "mine-gate," with no additional downstream costs required. The assumed products are ferroniobium (metallic alloy shots consisting of 65%Nb and 35% Fe), a titanium dioxide product in powder form, and scandium trioxide in powder form.
- The Mineral Reserve has an average LOM NSR of US\$ 563.06/tonne.
- Optimize Group has provided detailed estimates of the expected costs based on the knowledge of the style of mining (underground) and potential processing methods (by 3rd party Qualified Persons).
- Mineral reserve effective date is June 30, 2022. The financial model was run after the estimate of the NSR above, which reflects a total cost per tonne of US\$ 196.72 versus US\$ 189.91. This is not considered a material change.
- Price variances for commodities are based on independent market studies versus earlier projected pricing. The independent market studies do not have a negative effect on the reserve.

Disclaimers & Technical Disclosures

Mineral Reserves and Resources

Unless otherwise indicated, information concerning NioCorp's mining property included in this Presentation, including mineral resource and reserve estimates, has been prepared in accordance with the requirements of National Instrument 43-101– Standards of Disclosure for Mineral Projects ("NI 43-101") and the Canadian Institute of Mining and Metallurgy ("CIM") "Definition Standards – For Mineral Resources and Mineral Reserves, May 10, 2014" (the "CIM Definition Standards"). Beginning with NioCorp's Annual Report on Form 10-K for the fiscal year ended June 30, 2022 (the "NioCorp Form 10-K"), NioCorp's mining property disclosures included or incorporated by reference in its SEC filings, including mineral resource and reserve estimates, are required to be prepared in accordance with the requirements of subpart 1300 of Regulation S-K ("S-K 1300"). Previously, NioCorp prepared its estimates of mineral resources and mineral reserves following only NI 43-101 and the CIM Definition Standards. On June 28, 2022, NioCorp issued a CIM-compliant NI 43-101 technical report (the "2022 NI 43-101 Elk Creek Technical Report") for the Elk Creek Project, which is available through the website maintained by the Canadian Securities Administrators at www.sedar.com. On September 6, 2022, the Company filed a technical report summary for the Elk Creek Project that conforms to S-K 1300 reporting standards (the "S-K 1300 Elk Creek Technical Report Summary") as Exhibit 96.1 to "the NioCorp Form 10-K, which is available through the website maintained by the SEC at www.sec.gov. The 2022 NI 43-101 Elk Creek Technical Report and S-K 1300 Elk Creek Technical Report Summary are based on a feasibility study (the "June 2022 Feasibility Study") prepared by qualified persons (within the meaning of both NI 43-101 and S-K 1300, as applicable) and are substantively identical to one another except for internal references to the regulations under which the report is made, and certain organizational differences. The requirements and standards under Canadian securities laws, however, differ from those under S-K 1300. The terms "mineral resource," "inferred mineral resource," "indicated mineral resource," "mineral reserve," "probable mineral reserve," and "proven mineral reserve" included herein are used as defined in accordance with NI 43-101 under the CIM Definition Standards. While the terms are substantially similar to the same terms defined under S-K 1300, there are differences in the definitions. Accordingly, there is no assurance any mineral resource or mineral reserve estimates that the Company may report under NI 43-101 will be the same as the mineral resource or mineral reserve estimates that the Company may report under S-K 1300.

NioCorp discloses estimates of both is mineral resources and mineral reserves. You are cautioned that mineral resources are subject to further exploration and development and are subject to additional risks and no assurance can be given that they will eventually convert to future reserves. Under both regimes, inferred resources, in particular, have a great amount of uncertainty as to their existence and their economic and legal feasibility. Investors are cautioned not to assume that any part or all of the inferred resource exists or is economically or legally mineable. See Item 1A, Risk Factors in the NioCorp Form 10-K. Reference should be made to the full text of the 2022 NI 43-101 Elk Creek Technical Report and the S-K 1300 Elk Creek Technical Report Summary for further information regarding the assumptions, qualifications and procedures relating to the estimates of mineral reserves and mineral resources as defined under NI 43-101 and S-K 1300, respectively.

Qualified Persons

All technical and scientific information included in this Presentation derived from NioCorp's 2022 NI 43-101 Elk Creek Technical Report with respect to mineral resources has been reviewed and approved by Matthew Batty, P.Geo., Owner, Understood Mineral Resources Ltd., and all such information respecting NioCorp's mineral reserves has been reviewed and approved by Richard Jundis, P. Eng., Director of Mining, Optimize Group. Each of Messrs. Batty and Jundis is a "Qualified Person" as such term is defined in NI 43-101. Each of Mr. Batty and Mr. Jundis and their respective firms are independent consultants who provide consulting services to NioCorp. All technical and scientific information included in this Presentation derived from NioCorp's S-K 1300 Elk Creek Technical Report Summary with respect to mineral resources has been reviewed and approved by Understood Mineral Resources Ltd., and all such information respecting NioCorp's mineral reserves has been reviewed and approved by Optimize Group. Understood Mineral Resources Ltd. and Optimize Group are "Qualified Persons" as such term is defined in S-K 1300. All other technical and scientific information included in this Presentation has been reviewed and approved by Scott Honan, M.Sc., SME-RM, NioCorp's Chief Operating Officer. Mr. Honan is a "Qualified Person" as such term is defined in both NI 43-101 and S-K 1300.

