THIS ANNOUNCEMENT CONTAINS INSIDE INFORMATION FOR THE PURPOSES OF THE MARKET ABUSE REGULATION (EU) NO. 596/2014 (INCLUDING AS IT FORMS PART OF THE LAWS OF ENGLAND AND WALES BY VIRTUE OF THE EUROPEAN UNION (WITHDRAWAL) ACT 2018 ("MAR").

29 April 2024

Ferro-Alloy Resources Limited

("Ferro-Alloy" or the "Group" or the "Company")

2023 Final Results

Ferro-Alloy Resources Limited (LSE:FAR), the vanadium producer and developer of the large Balasausqandiq vanadium deposit in Southern Kazakhstan, is pleased to announce its final results for the year ended 31 December 2023.

Financial and corporate summary

- Group revenues of US$6.16m (2022: US$6.77m), a 9 % fall on the previous year mainly due to:
  - Reduced sales prices as a result of falling market prices for both vanadium pentoxide and molybdenum during the year
  - Concentrate supply issues at the plant site impacting production
- Cost of sales decreased to US$6.8m (2022: US$7.5m), reflecting the stabilisation of reagent and fuel costs in the CIS region
- The Group made an overall loss for the year of US$5.25m (2022: loss of US$4.29m) reflecting the reduced revenues and the continuing focus on the completion of the Balasausqandiq feasibility study
- Cash at bank at 31 December 2023 was US$1.95m (2022:US$4.33m). Cash at bank at 31 March 20204 was US$4.44m
- A new phased US$20million exempt offer bond programme was launched on the Astana International Exchange in Kazakhstan
- US$7.8m raised through the issue and sale of two tranches of bonds under the bond programme with a further US$4.73 million raised post period
- Vision Blue Resources Limited increased its stake in the Company to 22.99% following the conversion of loan notes to ordinary shares
- The Group has been awarded grant funding in Kazakhstan for three research and development projects

Operational Highlights

Feasibility Study

The completion of the Phase 1 feasibility study remains the main focus of the Company. Delays, mainly due to increased lead times for study workstreams, and service provider constraints means that the Company expects the publication of the Phase 1 feasibility study in the fourth quarter of this year.

Exploration

- Ore resource for ore-body 1 was revised upwards by SRK Consulting (Kazakhstan) to 32.9m tonnes at a mean grade of 0.62%, giving an increase of 35.4% of mineral resource and 23% increase of contained vanadium pentoxide

- Drilling of ore-bodies 2, 3 and 4 has been completed with the exception of an area which is difficult to access. The Company is awaiting assays for these ore-bodies which are expected to provide the feed for the larger Phase 2 development of the deposit
- Metallurgical test-work is nearing completion

Process Plant

Improvements to the plant during the year included:

- Construction of a dedicated area for the alumothermic production of ferro-molybdenum
- Addition of a new dissociation oven for the conversion of ammonium metavanadate to vanadium pentoxide
- Two new press-filters and other equipment were added to the plant to enable the re-pulpation of residues and further vanadium extraction
- Main fuel for the ovens was converted from diesel to liquid gas which is both lower cost and lower emissions
- Installation of air-cleaning equipment to improve work conditions and external emissions

Production

The plant has operated well during the period and despite production having been affected by several factors including supplier defaults and logistical problems during the year, the Group produced:

- 310.5 tonnes (2022: 305.5 tonnes) of vanadium pentoxide
- 34.3 tonnes (2022: 36.0 tonnes) of molybdenum (in ferro-molybdenum)
- Post period, the Group announced a 169% increase in production during Q1 2024 to 81.6 tonnes in comparison to Q1 23 (2023: 31.3 tonnes)

Commenting on the results, Nick Bridgen, CEO of Ferro-Alloy Resources said:

"It has been a challenging year for the Company, with supplier and logistical problems, as well as a deterioration in the price of vanadium pentoxide, mainly attributed to the slowing Chinese construction sector."

"Despite this, the Company has continued to make improvements to the plant and the outlook for concentrate supplies is now improving for the remainder of 2024."

Publication of Annual Report

The Company's annual report will be available shortly on the Company's website at www.ferro-alloy.com

For further information, visit www.ferro-alloy.com or contact:

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REVIEW OF THE YEAR

Operational Review

Whilst the main focus of the Group is on the feasibility study of the Balasausqandiq vanadium deposit, the Group is engaged in the business of extracting vanadium, molybdenum and nickel from purchased concentrates. This business resulted from the conversion and expansion of the large-scale test-plant that was constructed to pilot and test the metallurgical processes to be used in the main Balasausqandiq project.

This operation is intended to provide a cash flow to assist with the substantial ongoing costs of the preparation of the feasibility study and to contribute to the construction costs of the Balasausqandiq project mining operations.

A second objective is to retain the high quality technical and operating team that developed the metallurgical processes to be used in the main Balasausqandiq project so that they are available to assist with the feasibility study, design and future construction and operation of Phase 1 and Phase 2 of the Balasausqandiq project. As a result, the Group's work-force is experienced and will have a high level of technical and operational expertise prior to commissioning of the mine, significantly de-risking the project.

Feasibility Study Review

The main objective of the Group is to bring into production the Balasausqandiq deposit and to build a processing plant to treat 1.1 million tonnes of ore per year (Phase 1) mined from Ore Body 1 ("OB1") and later increase to a total of four million tonnes per year (Phase 2) through the additional mining of Ore Bodies 2, 3 and 4 ("OB2, 3 and 4"). The plans for Phase 2 may be amended to be staged in terms of additional modules at the same or similar scale to Phase 1.

Balasausqandiq deposit

The Balasausqandiq deposit is exceptional in a number of ways. Primarily, it is not a typical vanadiferous magnetite deposit but a sedimentary deposit and is expected to have lower capital and operating costs.

Furthermore:

- The ore is amenable to a whole-ore pressure acid leach process which gives a higher metallurgical recovery than conventional magnetite extraction;
- Pre-concentration of the ore and high temperature roasting are not required;
- There are potentially valuable by- or co- products within the ore, principally carbon, which can be easily recovered without significant additional processing;
- Major infrastructure items of power, road and rail connections already exist on site or nearby; and
- The Balasausqandiq deposit is a very large deposit and is easily mined from an open pit. Phases 1 and 2 combined envisage production of 24,000 tonnes per year of vanadium pentoxide, over 10% of current world supply.

The development of the deposit is planned to be in two phases, Phase 1 and Phase 2. Phase 1 will involve the construction and operation of an initial process plant treating over million tonnes per year of ore, followed, as soon as commissioning has been successfully concluded, by a Phase 2 operation for a further three million tonnes per year. The staging is to allow for the reduction of engineering scale-up risk and allow time for the development of markets as production increases. The staged development also reduces the amount of capital that has to be raised for the initial development, with the second stage to be largely financed by the earnings of the first.

Process plant

By the start of 2023, the plant had been significantly expanded and equipment added to enable the full recovery of all of the components of the purchased concentrates, and, more importantly, no tailings or other residues are ultimately left on-site.

Although the plant is designed to be flexible and able to treat a variety of raw materials, the most common raw materials treated are the spent catalysts used to remove impurities from crude oil in refineries. These typically contain vanadium, molybdenum and nickel, all of which can be recovered.

Improvements to the plant during the year have included the construction of a dedicated area for the alumothermic production of ferro-molybdenum, a new dissociation oven for the conversion of ammonium metavanadate (“AMV”) to vanadium pentoxide, two new press-filters and other equipment to enable the re-pulpation and further vanadium extraction from the nickel-rich residues. The main fuel for the ovens was converted from diesel to liquid gas which is both lower cost and lower in emissions. Various air-cleaning equipment has been installed, considerably improving the working environment and external emissions.

Production

During 2023, the plant has operated well, although production has been constrained by supplier defaults and delays in the delivery of concentrates to the plant, the latter made considerably worse by the war in Ukraine.

During the year, production of vanadium pentoxide and molybdenum (in ferro-molybdenum) amounted to 310.5 tonnes (2022: 305.5 tonnes) and 34.3 tonnes (2022: 36.0 tonnes), respectively.

Quarter	Production of Vanadium pentoxide (tonnes)	Growth vs last year	Production of Molybdenum (tonnes)	Growth vs last year
Q1	31.3	-61.4%	6.5	-42.5%
Q2	141.4	+54.2%	14.1	+35.6%
Q3	47.3	-32.3%	6.4	-41.8%
Q4	90.5	+44.1%	7.4	+124.2%
2023 total	**310.5**	**1.6%**	**34.4**	**-4.4%**

The plant also produced a nickel concentrate for sale to customers during the year.

Product prices (mid-market, as published) have broadly deteriorated by between 31% and 33% during the year, as shown in the table below:

	Start of 2023	Average for the year	End of 2023	Current (19 April 2024)
Vanadium pentoxide (US$/lb)	9.44	8.33	6.53	5.86
Ferro-molybdenum (US$/kg of Mo)	72.5	58.42	48.7	47.6

Production Outlook

The plant is capable of making significant cash flows but production to date has been restrained by a variety of factors, including indiscipline by suppliers and logistical problems.

The Group has accumulated significant experience in the business and is now sourcing concentrates from more reliable counterparties and has started to source some materials on a tolling basis which eliminates the risk of price movements between the time of purchase of concentrates and the sale of the product. Whilst there is always a chance of supply disruptions, the Directors believe that the situation will be much improved during 2024.

Vanadium prices are extremely weak, generally attributed to the slowing Chinese construction sector which is very important for overall demand. The current price is around US$6/lb, compared with US$9.44/lb at the start of 2023. The longer-term outlook for vanadium prices is more bullish. Foreseeable increases in demand for vanadium redox flow batteries ("VRFBs") as well as for vanadium-containing steels as the construction sector in China recovers are expected to bring about a more balanced market where prices recover.

Molybdenum prices are currently around US$47/kg of Molybdenum contained in ferro-molybdenum, compared with US$72.5/kg at the start of 2023.

Grant funded Research and Development projects

The Group has been awarded grant funding in Kazakhstan for three research and development projects that are all capable of delivering a significant benefit to our business.

Electrolyte for vanadium redox flow batteries

VRFBs are a means of energy storage particularly suitable for the longer-duration storage of energy from intermittent renewable sources. VRFBs have certain advantages over lithium-ion technology, including being scalable, not degrading over time and not catching fire, which make them more suitable for bulk, longer duration, energy storage.

The worldwide roll-out of VRFBs appears to have started and although forecasts vary, the general expectation is that the demand for vanadium electrolyte purposes will expand to become a significant part of overall vanadium demand.

The Company's wholly owned Kazakhstan subsidiary, Firma Balausa LLC, is receiving grant funding of KZT300 million (approximately US$638,000) for the development of technology, installation of equipment and production and sale of mixed vanadium oxides for use in VRFBs. KZT203.5 million of the grant funding had been received by the end of 2023.

The decision to award the grant was made by Kazakhstan's National Scientific Council which awarded the grant for the most promising commercialisation of the results of scientific and scientific-technical activities.

The Company announced on 2 September 2020 that it had developed and patented technology to produce vanadium electrolyte directly from AMV. The ability to make vanadium electrolyte directly from AMV provides not only the required know-how to enter this market, but also a cost advantage over traditional processes.

After a period of testing and development, the plan is to continue to produce and market vanadium tri-oxide and, if there is demand in the local region, to supply electrolyte. The aim is to position the Group to be able to supply at a large scale into this potentially very large market when the main Balasausqandiq project is commissioned.

Production of carbon concentrate for the substitution of carbon black in the making of rubber

The Group is working with the National Engineering Academy of the Republic of Kazakhstan on a technological project covering the industrial production and usage of carbon-silica fillers in the making of rubber. The aim of the project is to construct a pilot plant, substantially funded by government grants, on the Group’s existing processing site to concentrate the Group’s carbon tailings to provide over ten tonnes of fine-ground carbon-silica concentrate per month for testing and marketing. The expectation is that construction of the new pilot plant will be completed around the end of 2024 or early 2025, allowing test marketing and offtake negotiations for the product well in advance of the commissioning of the first Phase 1 module of the main Balasausqandiq project.

<u>Production of rare metal concentrates from vanadium-containing ore</u>
The Group has been awarded grant funding as a private partner to a Satbayev University programme for the development of new metallurgical technologies.

Exploration

There are six known ore-bodies in the deposit and there is some evidence of a seventh. Of these, only OB1 has now been explored sufficiently to declare a resource under the CRIRSCO approved standards.

A revised mineral resource estimate was issued by the Company's consultants SRK in April 2023 and included the following highlights:

- An Indicated Mineral Resource of 32.9 million tonnes for OB1, at a mean grade of 0.62% vanadium pentoxide ("V_2O_5"), reported at a marginal cut-off grade of 0.4% V_2O_5 - equating to 203,364 contained tonnes of V_2O_5
- An increase of 8.6 million tonnes (35.4%) of mineral resource and an increase of 38,058 tonnes (23%) of contained V_2O_5 by comparison with the estimate contained in the Company's 2018 Competent Persons Report
- The results of the previously reported infill drilling and trenching programmes completed during 2021/22 have been successful in converting 100% of the Resources to Indicated for the OB1 deposit. No Measured or Inferred Resource are stated
- A total of 75 diamond core holes and 88 trenches were used to define the Resource (a reduction of drill section spacing to 250 metres from the original 500 metres increased confidence)
- Confirmation that there are reasonable prospects for eventual economic extraction by constraining the Mineral Resources to an optimised open pit shell (50 degree slopes and a revenue factor of 1) using a selling price for 98% V_2O_5 flake of US$9.82 /lb

Summary Report for April 2023 MRE OB 1 Resource

Classification	Zone	Tonnage (Mt)	% V_2O_5	% Mo	% U	% C
Indicated	Oxide	1.57	0.67	0.014	0.0047	7.16
	Transitional	1.25	0.66	0.014	0.0045	7.17
	Fresh (Sulphide)	30.08	0.61	0.015	0.0052	8.83
Total		**32.90**	**0.62**	**0.015**	**0.0051**	**8.69**

<u>OB2, 3 and 4</u>

The drilling of OB2, 3 and 4 has been completed and receipt of the final assay results and corresponding mineral resource estimate are awaited. Due to topography, some 25% of the planned exploration area has proved to be difficult and expensive to access and as a result has not been drilled (albeit the Company does not expect the area to create difficulties for actual mining).

The mineral resource estimate for OB2,3 and 4 will exclude the area of difficult topography, however, based on semi-quantitative XRF analysis carried out on cores by the Company, the amount drilled is expected to provide ample ore to provide a relatively long life for the Phase 2 development.

Open pit geotechnical drilling

The open pit geotechnical study has been completed and the results will be used to confirm the open pit slope design.

Open pit hydrogeological drilling

Open pit hydrogeological drilling for OB1 has been completed and the hydrogeological study will be concluded as a part of the mine planning study.

Water supply hydrogeological drilling

A water bore drilling investigation for the water supply has been completed with the results awaiting final reporting.

Tailings management

The tailings management facility site selection study has been completed and a ground investigation programme of boreholes and test pits undertaken. The soil samples collected during the ground investigation are currently undergoing a programme of geotechnical testing at a soil investigation laboratory in Kazakhstan.

Processing

Metallurgy

Extraction of vanadium during acid leaching, following initial pilot and subsequent testing, continues to be between 94-97% vanadium extraction into solution.

Metallurgical testing including engineering tests, solid liquid separation tests, tailings product assessment and vanadium recovery to a saleable product continued at SGS Canada Inc (“SGS”) managed by Tetra Tech Limited (“Tetra Tech”).

Testing of the carbon element of the ore has been added to the scope of work at SGS targeting a minimum 40% carbon grade product with carbon flotation optimisation work continuing contemporaneously.

Carbon and ferro-silicon feed products from tailings

Test-work on the extraction of a carbon concentrate and on its use as a substitute for carbon black has been included within the scope of the Phase 1 feasibility study. Flotation tests show that the necessary >40% concentrate can be made with good overall carbon recovery. Testing of the product for use in making rubber by substitution for carbon black has been successfully completed and a further test programme to produce tyre industry normative data has been commissioned.

Transport logistics studies and further test programmes aimed at facilitating marketing and product qualification are planned. Test-work on alternative uses for the carbon-rich tailings as feed to ferro-silicon smelting is also ongoing.

Process design

The process plant design by Tetra Tech is focussed on employing the results of the SGS laboratory test work to initially design the comminution, leaching circuit and full process design criteria for the Phase 1 plant.

Conclusion

The Company expects the publication of the Phase 1 feasibility study in the fourth quarter this year to significantly raise awareness of the emergence of this new addition to the global vanadium market at the time of growing investor appreciation for rising vanadium use in the construction and green energy economy.

Discussions with various potential investors and debt funders have already been initiated but the publication of the feasibility study is expected to trigger the advancement of these discussions.

Financial Review

Earnings

The Group reported revenues of US$6.16m for the year compared to US$6.77m in 2022, reflecting a 9% decrease in sales over the period.

US$'000	2023	2022
Revenue from shipments recorded at the price at time of dispatch	6,164	6,773
Adjustments to revenue after final price determination and fair value changes	(448)	(502)
Total revenue	**5,716**	**6,271**

Revenue is recognised at the time of transfer of control of the Group's products to the customer but, as is common in the industry, the final pricing determination is often based on assay and prices after arrival of the goods at the final port of destination, particularly with respect to the sale of vanadium pentoxide products. The adjustments to revenue reflect these final pricing determinations which occur after the relevant revenue is initially recognised.

Recorded revenues for the year have decreased in comparison to the previous year primarily due to falling market prices, for both vanadium pentoxide and molybdenum, as well as concentrate supply issues impacting production and, therefore, sales at the Group's existing operation.

As a result of the general downward trend in the pricing of vanadium pentoxide during the year, a number of the Group's sales contracts were subject to a negative final pricing determination upon arrival at the final port of destination leading to an overall negative revenue adjustment of c. US$0.45m for the year (2022: US$0.50). The average published 2024 price of vanadium pentoxide to the date of this report is US$5.65/lb.

Cost of sales decreased to US$6.8m from US$7.5m in 2022, primarily reflecting the stabilisation of reagent and fuel costs in the CIS region following the Russian invasion of Ukraine at the start of 2022. The largest part of the cost of sales is the purchase of raw materials, the price for which is determined as a percentage of the value of the content of vanadium at the prices prevailing at the time of purchase.

Administrative expenses of US$3.4m (2022: US$2.5m) have increased by approximately US$0.9m during the year as a result of increased wages and salary costs of US.04m as well as general increased expenditure as the Group expands in preparation for the financing and construction of the Phase 1 mining facilities at the Balasausqandiq deposit.

The Group incurred other expenses during the year of US$0.47m (2022: US$0.43m) comprising currency conversion losses (representing transactional foreign exchange differences), a write down of slow moving / obsolete stocks held at the existing plant and raw material stock adjustments.

The Group made an overall loss for the year of US$5.25m (2022: loss of US$4.29m).

Cashflow

Net cash outflows from operating activities, before changes in working capital, for the year totalled US$4.3m (2022: US$3.7m) following adjustments for depreciation, amortisation, inventory write-downs and net finance losses. Changes in trade and other receivables increased by US0.2m (2022: US$1.0m) as a result of product sales recorded at the conclusion of the year (received after the year end) and adjustments made to recoverable VAT due from the Kazakh authorities at the year end. Changes in trade payables decreased by US$0.62m (2022: increase US$1.56m) mainly as a result of concentrate suppliers being paid down during the ordinary course of business.

Net cash outflows from investing activities totalled US$3.9m (2022: US$4.3m) and included US$0.98m (2022: US1.47m) of capital expenditure associated with the expansion and upgrade of the processing operation's production facilities and US$2.93m (2022: US$2.87m) of expenditure on the Phase 1 feasibility study capitalised as an exploration and evaluation asset (see Note 13).

Net cash inflows from financing activities for the year were US$6.5m (2022: US$9.2m), representing the proceeds of the sale of two tranches of bonds under the Kazakhstan bond programme summarised below. Other financing activities include the repayment of existing bondholders of US$1.1 (2022: US$0.3m) and interest payable to the Company's bondholders of US$0.16m (2022: US$0.08m).

The Group held cash of US$1.95m at 31 December 2023 (2022: US$4.331m).

Balance sheet review

Total non-current assets increased to US$14m from US$10.93m principally due to the continued capitalisation of the feasibility study as an exploration and evaluation asset.

Current assets decreased from US$8m to US$6m, driven mainly by a US$2.4m reduction in cash and cash equivalents held by the Group at the year end.

Total non-current liabilities increased by approximately US$7.39m during the year from US$0.03m to US$7.42m as a result of the issue and sale of the two tranches of corporate bonds noted above.

Current liabilities decreased during the year from US$3.5m to US$2.4m mainly as a result of the maturity and repayment of the Company's corporate bonds in existence prior to the launch of the Kazakhstan bond programme. At the year end, the Company recognised US$0.1m of deferred income in relation to the award of a government grant with respect to the manufacture of vanadium oxide variants.

Corporate

During July 2023, the Company launched a new phased US$20 million exempt offer bond programme on the Astana International Exchange (the "AIX") in Kazakhstan (the "Bond Programme").

The salient features of the Bond Programme are as follows:

- the Bond Programme will comprise one or more tranches of bonds, each listed on the AIX;
- the total nominal value of all tranches issued under the Programme will not exceed US$20 million;
- each tranche of the Bond Programme will be offered only to accredited investors based in Kazakhstan and governed by the laws and regulations of the Astana International Financial Centre;
- bonds issued under the Bond Programme will be denominated in either US dollars or Kazakhstan tenge with interest payable to bondholders bi-annually;
- all bonds issued will rank as unsecured debt obligations of the Company;
- the applicable coupon rate, duration, issue price and other relevant terms of any bonds issued under the Bond Programme will be defined and determined by the terms and conditions of each tranche of bonds issued; and
- the Bond Programme will be valid until 31 July 2033.

Prior to the year end, the Company issued and sold two tranches of bonds under the Bond Programme for net proceeds of US$7.8m. See Note 21 for further details.

During November 2023, the Company received notice from Vision Blue Resources Limited ("Vision Blue") to convert the outstanding convertible loan notes into ordinary shares. Accordingly, 33,520,088 ordinary shares were issued to Vision Blue taking their total shareholding in the Company to

111,071,783 ordinary shares representing 22.99% of the Company's issued share capital at the year end (2022: 77,551,695 ordinary shares / 17.3%). See Note 20 for further details.

Key performance indicators

The Group is in a period of development and its current operations, the processing of bought-in secondary vanadium-containing materials for extraction of vanadium and other metals, are relatively small in comparison with the main objective of the Group to develop the Balasausqandiq deposit and processing facility. Moreover, the current operations are themselves undergoing a significant change which means that operations are not in a steady state capable of meaningful inter-period comparisons. The Directors are, therefore, of the opinion that key performance indicators may be misleading if not considered in the context of the development of the operation as a whole for which the information for shareholders is better given in a descriptive manner than in tabular form.

The existing processing business of the Group is complex. The Group's business model has been developed to allow maximum flexibility in the type of raw materials treated so that the most profitable materials can be selected for treatment at any given point in time. Nevertheless, the Directors consider that the main indicator of performance, although subject to interpretation as described above, is the level of production (refer to the Operational Review for further information).

FINANCIAL STATEMENTS

Consolidated Statement of Financial Position as at 31 December 2023

	Note	2023 $000	2022 $000
Revenue from customers (pricing at shipment)	4	6,164	6,773
Other revenue (adjustments to price after delivery and fair value changes)	4	(448)	(502)
Total revenue	4	5,716	6,271
Cost of sales	5	(6,769)	(7,516)
Gross loss		**(1,053)**	**(1,245)**
Other income	6	20	77
Administrative expenses	7	(3,371)	(2,545)
Distribution expenses		(193)	(265)
Other expenses	8	(471)	(426)
Loss from operating activities		**(5,068)**	**(4,404)**
Net finance (costs) / income	10	(183)	118
Loss before income tax		**(5,251)**	**(4,286)**
Income tax	11	-	-
Loss for the period		**(5,251)**	**(4,286)**

Other comprehensive loss

Items that may be reclassified subsequently to profit or loss

	Note	2023 $000	2022 $000
Exchange differences arising on translation of foreign operations		39	(541)
Total comprehensive loss for the period		**(5,212)**	**(4,827)**
Loss per share (basic and diluted) (US$)	20	(0.012)	(0.011)

Consolidated Statement of Profit or Loss and Other Comprehensive Income for the year ended 31 December 2023

	Note	31 December 2023 $000	31 December 2022 $000
ASSETS			
Non-current assets			
Property, plant and equipment	12	5,951	5,434
Exploration and evaluation assets	13	7,145	4,208
Intangible assets	14	20	19
Prepayments	18	888	1,273
Total non-current assets		**14,004**	**10,934**
Current assets			
Inventories	16	1,983	1,628
Trade and other receivables	17	1,316	1,151
Prepayments	18	762	911
Cash and cash equivalents	19	1,952	4,331
Total current assets		**6,013**	**8,021**
Total assets		**20,017**	**18,955**
EQUITY AND LIABILITIES			
Equity			
Share capital	20	55,027	50,827
Convertible loan notes	20	-	4,019
Additional paid-in capital		397	397
Share-based payment reserve	20	20	5
Foreign currency translation reserve		(4,122)	(4,161)
Accumulated losses		(41,106)	(35,674)
Total equity		**10,216**	**15,413**
Non-current liabilities			
Loans and borrowings	21	7,393	-
Provisions	22	31	33
Total non-current liabilities		**7,424**	**33**
Current liabilities			
Loans and borrowings	21	-	1,108
Trade and other payables	23	2,141	2,383
Deferred income	24	102	-
Interest payable	21	134	18
Total current liabilities		**2,377**	**3,509**
Total liabilities		**9,801**	**3,542**
Total equity and liabilities		**20,017**	**18,955**

Consolidated Statement of Changes in Equity for the year ended 31 December 2023

	Share capital $000	Convertible loan notes $000	Additional paid in capital $000	Share-based payment reserve $000	Foreign currency translation reserve $000	Accumulated losses $000	Total $000
Balance at 1 January 2022	41,252	4,019	397	-	(3,620)	(31,388)	10,660
Loss for the year	-	-	-	-	-	(4,286)	(4,286)
Other comprehensive expenses							
Exchange differences arising on translation of foreign operations	-	-	-	-	(541)	-	(541)
Total comprehensive loss for the year	**-**	**-**	**-**	**-**	**(541)**	**(4,286)**	**(4,827)**
Transactions with owners, recorded directly in equity							
Shares issued, net of issue costs	9,575	-	-	-	-	-	9,575
Other transactions recognised directly in equity	-	-	-	5	-	-	5
Balance at 31 December 2022	**50,827**	**4,019**	**397**	**5**	**(4,161)**	**(35,674)**	**15,413**
Balance at 1 January 2023	50,827	4,019	397	**5**	(4,161)	(35,674)	15,413
Loss for the year	-	-	-	**-**	-	(5,251)	(5,251)
Other comprehensive expenses							
Exchange differences arising on translation of foreign operations	-	-	-	-	39	-	39
Total comprehensive loss for the year	**-**	**-**	**-**	**-**	**39**	**(5,251)**	**(5,212)**
Transactions with owners, recorded directly in equity							
Shares issued, net of issue costs	-	-	-	-	-	-	-
Conversion of loan notes to equity	4,200	(4,019)	-	-	-	(181)	
Other transactions recognised directly in equity	-	-	-	15	-	-	15
Balance at 31 December 2023	**55,027**	**-**	**397**	**20**	**(4,122)**	**(41,106)**	**10,216**

Consolidated Statement of Cash Flows for the year ended 31 December 2023

		2023 $000	2022 $000
Cash flows from operating activities			
Loss for the year	**Note**	**(5,251)**	**(4,286)**
Adjustments for:			
Depreciation and amortisation	5, 7	476	505
Write-off of property, plant and equipment	8	1	54
Write-down of inventory to net realisable value	8	254	160
Write-off of non-refundable VAT		30	-
Share-based payment expense	20	15	5
Net finance loss / (gain)	10	183	(118)
Cash used in operating activities before changes in working capital		**(4,292)**	**(3,680)**
Change in inventories		(609)	312
Change in trade and other receivables		(195)	(1,035)
Change in prepayments		534	(584)
Change in trade and other payables		(622)	1,555
Change in deferred income	24	102	-
Net cash used in operating activities		**(5,082)**	**(3,432)**
Cash flows from investing activities			
Acquisition of property, plant and equipment	12	(978)	(1,466)
Acquisition of exploration and evaluation assets	13	(2,931)	(2,871)
Acquisition of intangible assets	14	(1)	(1)
Proceeds on fixed asset disposal	6	-	36
Net cash used in investing activities		**(3,910)**	**(4,302)**
Cash flows from financing activities			
Proceeds from issue of share capital	20	-	10,000
Transaction costs on share subscriptions		-	(425)
Proceeds from borrowings		7,784	-
Repayment of borrowings	21	(1,112)	(300)
Interest paid	21	(157)	(82)
Net cash from financing activities		**6,515**	**9,193**
Net increase in cash and cash equivalents		**(2,477)**	**1,459**
Cash and cash equivalents at the beginning of year	19	4,331	2,810
Effect of movements in exchange rates on cash and cash equivalents		98	62
Cash and cash equivalents at the end of the year		**1,952**	**4,331**

Notes to the consolidated financial statements for the year ended 31 December 2023

1. **Basis of preparation**

The consolidated financial statements for the year ended 31 December 2023 comprise the Company and the following subsidiaries:

Company	Location	Company's share in share capital	Primary activities
Energy Metals Limited	UK	100%	Dormant
Vanadium Products LLC	Kazakhstan	100%	Performs services for the Group
Firma Balausa LLC	Kazakhstan	100%	Production and sale of vanadium and associated by-products
Balausa Processing Company LLC	Kazakhstan	100%	Development of processing facilities

(a) Statement of compliance

These financial statements have been prepared in accordance with International Financial Reporting Standards as adopted by the European Union ("IFRS").

(b) Basis of measurement

The consolidated financial statements are prepared on the historical cost basis except as otherwise noted below.

- **Functional and presentation currency**

The national currency of Kazakhstan is the Kazakhstan Tenge ("KZT") which is also the functional currency of the Group's operating subsidiaries. The functional currency of the Company is US Dollars ("US$"). The presentation currency of the consolidated financial statements is US Dollars.

- **Going concern**

The consolidated financial statements are prepared in accordance with IFRS on a going concern basis.

The Directors have reviewed the Group's cash flow forecasts for a period of at least 12 months from the date of approval of the financial statements, together with sensitivities and mitigating actions. In addition, the Directors have given specific consideration to the continued risks and uncertainties associated with the geopolitical situation with respect to Russia and Ukraine.

The Directors are confident, having conducted relevant analyses with respect to estimated concentrate availability and production levels, that the Company has sufficient resources, following the issue and sale of two tranches bonds under the Bond Programme during year and a further tranche after the year end, to continue as a going concern for at least the next 12 months.

2. Use of estimates and judgements

Preparing the financial statements requires management to make judgements, estimates and assumptions that affect the application of accounting policies and the reported amounts of assets and liabilities, income and expenses. Actual results may differ from these estimates.

Estimates and underlying assumptions are reviewed on an ongoing basis. Revisions to accounting estimates are recognised in the period in which the estimates are revised and in any future periods affected.

Carrying value of processing operations

The Directors have tested the processing operations' property, plant and equipment ("PP&E") for impairment (Note 12) at 31 December 2023. In doing so, net present value cash flow forecasts were prepared using the value in use method which required key estimates including vanadium pentoxide and ferro-molybdenum prices, production including the impact of ongoing PP&E maintenance costs and an appropriate discount rate. Key estimates included:

- Production volumes of 48 tonnes per month of vanadium pentoxide and 8.3 tonnes of molybdenum (as ferro-molybdenum).
- Average prices of vanadium pentoxide of US$7.50/lb, ferro-molybdenum of US$47.90/kg in 2024 and thereafter, reflecting management estimates having consideration of market commentary less a discount, and used by the Company as a long-term assumption for other planning purposes.
- Discount rate of 14.7% post tax in real terms.

Based on the key assumptions set out above, the recoverable amount of PP&E (US$19.2m) exceeds its carrying amount (US$5.95m) by US$13.25m and therefore PP&E were not impaired.

Sensitivity analysis

Any impairment is dependent on judgement used in determining the most appropriate basis for the assumptions and estimates made by management, particularly in relation to the key assumptions described above. Sensitivity analysis to potential changes in key assumptions has, therefore, been provided below.

The impact on the impairment calculation of applying different assumptions to product sales prices, production volumes and post-tax discount rates, all other inputs remaining equal, would be as follows:

	Decrease in headroom US$'000
Impact if product sales prices reduced by 10%:	(6,800)

Impact if production volumes decreased by 10%:	(3,500)
Impact if post-tax discount rate increased by 2 percentage points:	(2,200)

Inventories (Note 16)

The Group holds material inventories which are assessed for impairment at each reporting date. The assessment of net realisable value requires consideration of future cost to process and sell and spot market prices at year end less applicable discounts. The estimates are based on market data and historical trends.

Exploration and evaluation assets (Note 13)

The Group holds material exploration and evaluation assets and judgement is applied in determining whether impairment indicators exist under the Group's accounting policy. In determining that no impairment indicator exists management have considered the Competent Person's Report on the asset, the strategic plans for exploration and future development and the status of the Subsoil Use Agreement. Judgement was required in determining that the application for deferral of obligations under the Subsoil Use Agreement (Note 26) will be granted and management anticipate such approvals being provided given their understanding of the Kazakh market and plans for the asset.

3. Significant accounting policies

The accounting policies set out below have been applied consistently to all periods presented in these consolidated financial statements and have been applied consistently by Group entities, except for the implementation of new standards and interpretations.

a. Basis of consolidation

(i) Subsidiaries

Subsidiaries are entities controlled by the Group. The Group controls an entity when it is exposed to, or has rights to, variable returns from its involvement with the entity and has the ability to affect those returns through its power over the entity. The financial statements of subsidiaries are included in the consolidated financial statements from the date that control commences until the date that control ceases. The accounting policies of subsidiaries have been changed when necessary to align them with the policies adopted by the Group.

(ii) Transactions eliminated on consolidation

Intra-group balances and transactions, and any unrealised income and expenses arising from intra-group transactions, are eliminated in preparing the consolidated financial statements. Unrealised losses are eliminated in the same way as unrealised gains, but only to the extent that there is no evidence of impairment.

b. Foreign currency

(i) Foreign currency transactions

Transactions in foreign currencies are translated to the respective functional currencies of Group entities at exchange rates at the dates of the transactions.

Monetary assets and liabilities denominated in foreign currencies at the reporting date are translated to the functional currency at the exchange rate at that date.

Non-monetary items in a foreign currency that are measured based on historical cost are translated using the exchange rate at the date of the transaction.

Foreign currency differences arising in translation are recognised in profit or loss.

(ii) Presentation currency

The assets and liabilities of foreign operations are translated to US$ at the exchange rates prevailing at the reporting date. The income and expenses of foreign operations are translated to US$ at the average exchange rate for the period, which approximates the exchange rates at the dates of the transactions. Where specific material transactions occur, such as impairments or reversals of impairments, the daily exchange rate is applied when the impact is material.

Foreign currency differences are recognised in other comprehensive income and are presented within the foreign currency translation reserve in equity.

Foreign currency differences arising on intercompany loans, where the loans are not planned to be repaid within the foreseeable future and form part of a net investment, are recorded within other comprehensive income and are presented within the foreign currency translation reserve in equity.

c. Financial instruments

Financial assets and financial liabilities are recognised in the Group's consolidated statement of financial position when the Group becomes a party to the contractual provisions of the instrument.

(i) Financial assets

Financial assets are classified as either financial assets at amortised cost, at fair value through other comprehensive income ("FVTOCI") or at FVTPL depending upon the business model for managing the financial assets and the nature of the contractual cash flow characteristics of the financial asset. A loss allowance for expected credit losses is determined for all financial assets, other than those at FVTPL, at the end of each reporting period. The Group applies a simplified approach to measure the credit loss allowance for trade receivables using the lifetime expected credit loss provision. The lifetime expected credit loss is evaluated for each trade receivable taking into account payment history, payments made subsequent to year end and prior to reporting, past default experience and the impact of any other relevant and current observable data. The Group applies a general approach on all other receivables classified as financial assets. The general approach recognises lifetime expected credit losses when there has been a significant increase in credit risk since initial recognition.

The Group derecognises a financial asset when the contractual rights to the cash flows from the asset expire, or when it transfers the financial asset and substantially all the risks and rewards of ownership of the asset to another party. The Group derecognises financial liabilities when the Group's obligations are discharged, cancelled or have expired.

(ii) Customer contracts

Under some of its customer sale arrangements, the Group receives a provisional payment upon satisfaction of its performance obligations based on the spot price at that date, which occurs prior to the final price determination, with the Group then subsequently receiving or paying the difference between the final price and quantity and the provisional payment. As a result of the pricing structure, the instrument is classified at FVTPL and measured at fair value with changes in fair value recorded as other revenue.

(iii) Other receivables

Other receivables are accounted for at amortised cost. Other receivables do not carry any interest and are stated at their nominal value as reduced by appropriate expected credit loss allowances for estimated recoverable amounts as the interest that would be recognised from discounting future cash payments over the short payment period is not considered to be material.

(iv) Cash and cash equivalents

Cash and cash equivalents comprise cash balances in banks, call deposits and highly liquid investments with maturities of three months or less from the acquisition date that are subject to insignificant risk of changes in their fair value, and petty cash.

(v) Financial liabilities

The Group has the following non-derivative financial liabilities: borrowings and trade and other payables. Such financial liabilities are recognised initially at fair value plus any directly attributable transaction costs. Subsequent to initial recognition these financial liabilities are measured at amortised cost using the effective interest method.

(vi) Long-term borrowings

After initial recognition, interest-bearing borrowings are subsequently measured at amortised cost using the effective interest rate method. Gains and losses are recognised in profit or loss. Amortised cost is calculated by taking into account any discount or premium on acquisition and fees or costs that are an integral part of the effective interest rate. The effective interest rate amortisation is included as finance costs in the statement of profit or loss.

(vii) Share capital

Ordinary shares

Ordinary shares are classified as equity. Incremental costs directly attributable to the issue of ordinary shares are recognised as a deduction from equity, net of any tax effects.

d. Property, plant and equipment

(i) Recognition and measurement

Items of property, plant and equipment are measured at cost less accumulated depreciation and impairment losses. Land is measured at cost.

Cost includes expenditure that is directly attributable to the acquisition of the asset. The cost of self-constructed assets includes the cost of materials and direct labour, any other costs directly attributable to bringing the asset into a working condition for its intended use, the costs of dismantling and removing the items and restoring the site on which they are located.

When parts of an item of property, plant and equipment have different useful lives, they are accounted for as separate items (major components) of property, plant and equipment.
The gain or loss on disposal of an item of property, plant and equipment is determined by comparing the proceeds from disposal with the carrying amount of property, plant and equipment, and is recognised net within other income/other expenses in profit or loss.

(ii) Subsequent costs

The cost of replacing part of an item of property, plant and equipment is recognised in the carrying amount of the item if it is probable that the future economic benefits embodied within the part will flow to the Group and its cost can be measured reliably. The carrying amount of the replaced part is derecognised. The costs of the day-to-day servicing of property, plant and equipment are recognised in profit or loss as incurred.

(iii) Depreciation

Depreciation is based on the cost of an asset less its residual value. Significant components of individual assets are assessed and if a component has a useful life that is different from the remainder of that asset, that component is depreciated separately.

Depreciation is recognised in profit or loss on a straight-line basis over the estimated useful lives of each part of an item of property, plant and equipment, since this most closely reflects the expected pattern of consumption of the future economic benefits embodied in the asset. Leased assets are depreciated over the shorter of the lease term and their useful lives unless it is reasonably certain that the Group will obtain ownership by the end of the lease term. Land is not depreciated.

The estimated useful lives for the current and prior periods are as follows:

- Buildings 10-50 years;
- Plant and equipment 4-20 years;
- Vehicles 4-7 years;
- Computers 3-6 years; and

- Other 3-10 years.
-

Depreciation methods, useful lives and residual values are reviewed at each financial year end and adjusted prospectively if appropriate.

Assets under construction are not depreciated and begin being depreciated once they are ready and available for use in the manner intended by management.

e. Exploration and evaluation assets

Exploration and evaluation expenditure for each area of interest once the legal right to explore has been acquired, other than that acquired through a purchase transaction, is carried forward as an asset provided that one of the following conditions is met.

- Such costs are expected to be recouped through successful exploration and development of the area of interest or, alternatively, by its sale; or
- Exploration and evaluation activities in the area of interest have not yet reached a stage which permits a reasonable assessment of the existence or otherwise of economically recoverable reserves, and active and significant operations in relation to the area are continuing.

Exploration and evaluation costs are capitalised as incurred. Exploration and evaluation assets are classified as tangible or intangible based on their nature. Exploration expenditure which fails to meet at least one of the conditions outlined above is written off. Administrative and general expenses relating to exploration and evaluation activities are expensed as incurred.

The exploration and evaluation assets shall no longer be classified as such when the technical feasibility and commercial viability of extracting a mineral resource are demonstrable. This includes consideration of a variety of factors such as whether the requisite permits have been awarded, whether funding required for development is sufficiently certain of being secured, whether an appropriate mining method and mine development plan is established and the results of exploration data including internal and external assessments.

Exploration and evaluation assets will be reclassified either as tangible or intangible development assets and amortised on a unit-of-production method based on proved reserves.

Exploration and evaluation assets are assessed for impairment when facts and circumstances suggest that the carrying amount of exploration and evaluation assets may exceed their recoverable amount, which is the case when: the period of exploration license has expired and it is not expected to be renewed; substantial expenditure on further exploration is not planned; exploration has not led to the discovery of commercially viable reserves; or indications exist that exploration and evaluation assets will not be recovered in full from successful development or by sale.

Impairment losses recognised in prior periods are assessed at each reporting date for any indications that the loss has decreased or no longer exists. An impairment loss is reversed if there has been a change in the estimates used to determine the recoverable amount.

f. Intangible assets

(i) Intangible assets with finite useful lives

Intangible assets that are acquired by the Group, which have finite useful lives, are measured at cost less accumulated amortisation and accumulated impairment losses.

(ii) Subsequent expenditure

Subsequent expenditure is capitalised only when it increases the future economic benefits embodied in the specific asset to which it relates. All other expenditure, including expenditure on internally generated goodwill and brands, is recognised in profit or loss as incurred.

(iii) Amortisation

Amortisation is calculated over the cost of the asset, or other amount substituted for cost, less its residual value.

Amortisation is recognised in profit or loss on a straight-line basis over the estimated useful lives of intangible assets from the date that they are available for use since this most closely reflects the expected pattern of consumption of future economic benefits embodied in the asset.

The estimated useful lives for the current and comparative periods are as follows:

- Patents 10-20 years; and
- Mineral rights 20 years.

Amortisation methods, useful lives and residual values are reviewed at each financial year end and adjusted if appropriate.

g. Inventories

Inventories are measured at the lower of cost and net realisable value. The cost of inventories is based on first-in first-out method, and includes expenditure incurred in acquiring the inventories, production or conversion costs and other costs incurred in bringing them to their existing location and condition. In the case of manufactured inventories and work in progress, cost includes an appropriate share of production overheads based on normal operating capacity.

Net realisable value is the estimated selling price in the ordinary course of business, less the estimated costs of completion and selling expenses.

h. Impairment

(i) Non-financial assets

The carrying amounts of the Group's non-financial assets, other than inventories and deferred tax assets are reviewed at each reporting date to determine whether there is any indication of impairment. If any such indication exists, then the asset's recoverable amount is estimated. An impairment loss is recognised if the carrying amount of an asset or its related cash-generating unit ("CGU") exceeds its estimated recoverable amount.

The recoverable amount of an asset or CGU is the greater of its value in use and its fair value less costs to sell (otherwise referred to as fair value less cost to develop in the industry). Fair value less costs to sell is determined by discounting the post-tax cash flows expected to be generated by the cash-generating unit, net of associated selling costs, and takes into account assumptions market participants would use in estimating fair value. In assessing the value in use, the estimated future cash flows are adjusted for the risks specific to the asset/cash-generating unit and are discounted to their present value that reflects the current market indicators. In assessing value in use, the estimated future cash flows are discounted to their present value using a pre-tax discount rate that reflects current market assessments of the time value of money and the risks specific to the asset or CGU. For the purpose of impairment testing, assets that cannot be tested individually are grouped together into the smallest group of assets that generates cash inflows from continuing use that are largely independent of the cash inflows of other assets or CGUs.

The Group's corporate assets do not generate separate cash inflows. If there is an indication that a corporate asset may be impaired, then the recoverable amount is determined for the cash generating unit to which the corporate asset belongs.

An impairment loss is recognised if the carrying amount of an asset or its cash-generating unit exceeds its recoverable amount. Impairment losses are recognised in profit or loss.

Impairment losses recognised in prior periods are assessed at each reporting date for any indications that the loss has decreased or no longer exists. An impairment loss is reversed if there has been a change in the estimates used to determine the recoverable amount. An impairment loss is reversed only to the extent that the asset's carrying amount does not exceed the carrying amount that would have been determined, net of depreciation or amortisation, if no impairment loss had been recognised.

i. Employee benefits

(i) Defined contribution plans

The Group does not incur any expenses in relation to the provision of pensions or other post-employment benefits to its employees. In accordance with Kazakhstan state pension social insurance regulations, the Group withholds pension contributions from Kazakhstan based employee salaries and transfers them into State operated pension funds. Once the contributions have been paid, the Group has no further pension obligations. Upon retirement of employees, all pension payments are administered by the pension funds directly.

(ii) Short-term benefits

Short-term employee benefit obligations are measured on an undiscounted basis and are expensed as the related service is provided. A liability is recognised for the amount expected to be paid under short-term cash bonus or profit-sharing plans if the Group has a present legal or constructive obligation to pay this amount as a result of past service provided by the employee, and the obligation can be estimated reliably.

j. Provisions

(i) Recognition and measurement

A provision is recognised if, as a result of a past event, the Group has a present legal or constructive obligation that can be estimated reliably, and it is probable that an outflow of economic benefits will be required to settle the obligation. Provisions are determined by discounting the expected future cash flows at a pre-tax rate that reflects current market assessments of the time value of money and the risks specific to the liability. The unwinding of the discount is recognised as a finance cost.

(ii) Site restoration

In accordance with the Group's environmental policy and applicable legal requirements, a provision for site restoration is recognised when the land is disturbed as a result of pit development and plant decommissioning with a corresponding increase in exploration and evaluation costs or property, plant and equipment. Subsequent changes in the provision due to estimates are recorded as a change in the relevant asset. The provision is discounted at a risk-free rate with the costs incorporating risks relevant to the site restoration and an unwinding charge is recognised within finance costs for the unwinding of the discount.

k. Revenue

(i) Goods sold

Revenue from customers comprises the sale of vanadium and molybdenum products with other revenues from gravel and waste rock being non-significant. Revenue from vanadium products is recognised at a point in time when the customer has a legally binding obligation to settle under the terms of the contract and when the performance obligations have been satisfied, which is once control of the goods has transferred to the buyer at a designated delivery point at which point possession, title and risk transfers.

The Group commonly receives a provisional payment at the date control passes with reference to spot prices at that date. The final consideration is subject to quantity / quality adjustments and final pricing based on market prices determined after the product reaches its port of destination. The quantity / quality adjustments represent a form of variable consideration and revenue is constrained to record amounts for which it is highly probable no reversal will be required. However, given the short period to delivery post year end the final quantity / quality adjustments are known and revenue for the period is adjusted to reflect the final quantity / quality occurring subsequent to year end if material.

Changes in final consideration due to market prices is not determined to qualify as variable consideration within the scope of the IFRS 15 "Revenue from Customers". Changes in fair value as a result of market prices are recorded within revenue as other revenue.

l. Finance costs

Finance costs comprise interest expense on borrowings, unwinding of the discount on provisions for historical costs and site restoration and foreign currency losses. Borrowing costs that are not directly attributable to the acquisition, construction or production of a qualifying asset are recognised in profit or loss using the effective interest method.

Foreign currency gains and losses are reported on a net basis as either finance income or finance cost depending on whether foreign currency movements result in a net gain or loss, this includes exchange gains and losses that arise on trade and other receivables and trade and other payables in foreign currency.

m. Income tax

Income tax expense comprises current and deferred tax. Current tax and deferred tax are recognised in profit or loss except to the extent that they relate to items recognised directly in equity or in other comprehensive income.

Current tax is the expected tax payable or receivable on the taxable income or loss for the year, using tax rates enacted or substantively enacted at the reporting date, and any adjustment to tax payable in respect of previous years. Deferred tax is recognised in respect of temporary differences between the carrying amounts of assets and liabilities for financial reporting purposes and the amounts used for taxation purposes. Deferred tax is not recognised for temporary differences on the initial recognition of assets or liabilities in a transaction that is not a business combination and that affects neither accounting nor taxable profit or loss. Deferred tax is measured at the tax rates that are expected to be applied to the temporary differences when they reverse, based on the laws that have been enacted or substantively enacted by the reporting date.

Deferred tax assets and liabilities are offset if there is a legally enforceable right to offset current tax assets and liabilities, and they relate to income taxes levied by the same tax authority on the same taxable entity, or on different tax entities, but they intend to settle current tax liabilities and assets on a net basis or their tax assets and liabilities will be realised simultaneously.

A deferred tax asset is recognised for unused tax losses, tax credits and deductible temporary differences, to the extent that it is probable that future taxable profits will be available against which they can be utilised. Deferred tax assets are reviewed at each reporting date and are reduced to the extent that it is no longer probable that the related tax benefit will be realised.

n. Earnings per share

The Company presents basic and diluted earnings per share ("EPS") data for its ordinary shares. Basic EPS is calculated by dividing the profit or loss attributable to ordinary shareholders of the Company by the weighted average number of ordinary shares outstanding during the period, adjusted for own shares held. Diluted EPS is determined by adjusting the profit or loss attributable to ordinary shareholders and the weighted average number of ordinary shares outstanding, adjusted for own shares held, for the effects of all dilutive potential ordinary shares.

o. Segment reporting

An operating segment is a component of the Group that engages in business activities from which it may earn revenues and incur expenses (including revenues and expenses related to transactions with other components of the same Group); whose operating results are regularly reviewed by the chief operating decision maker to make decisions about resources to be allocated to the segment and assess its performance, and for which discrete financial information is available.

p. Share-based payments

(i) Share-based payment transactions

The Company grants share options to certain Directors and Group employees ("Equity-Settled Transactions") under the Company's share option plan. The Directors determine the specific grant terms within the limits set by the Company's share option plan.

(ii) Equity-settled transactions

The costs of Equity-Settled Transactions are measured by reference to the fair value at the grant date and are recognised, together with a corresponding increase in equity, over the period in which the performance and/or service conditions are fulfilled, ending on the date on which the relevant persons become fully entitled to the award (the "Vesting Date"). The cumulative expense recognised for Equity-Settled Transactions at each reporting date until the Vesting Date reflects the Company's best estimate of the number of equity instruments that will ultimately vest. The profit or loss charge or credit for a period represents the movement in cumulative expense recognised as at the beginning and end of that period and the corresponding amount is represented in share-based payments reserve. No expense is recognised for awards that do not ultimately vest.

Where the terms of an equity-settled award are modified, the minimum expense recognised is the expense as if the terms had not been modified. An additional expense is recognised for any modification which increases the total fair value of the share-based payment arrangement or is otherwise beneficial to the Director or Group employee as measured at the date of modification.

Where Equity-Settled Transactions are awarded to Directors or Group employees, the fair value of the share options at the date of grant is charged to the profit and loss statement over the vesting period. Non-market performance vesting conditions are taken into account by adjusting the number of equity instruments expected to vest at each reporting date so that, ultimately, the cumulative amount recognised over the vesting period is based on the number of the options that will eventually vest. Market performance vesting conditions are incorporated into the fair value of the equity instrument at the grant date.

Upon exercise of share options, the proceeds received are allocated to share capital together with any associated balance in the share-based payments reserve are transferred to retained earnings. The dilutive effect of outstanding options is reflected as additional dilution in the computation of diluted earnings per share.

The Company utilises the Black-Scholes option pricing model to estimate the fair value of share options granted to Directors and Group employees. The use of this model requires management to make various estimates and assumptions that impact the value assigned to the share options including the forecast future volatility of the share price, the risk-free interest rate, dividend yield, the expected life of the share options and the expected number of shares which will vest. See Note 20 for further details.

q. Government grants

Government grants are initially recognised as deferred income once the Group has reasonable assurance that the grant will be received and that the Group will be in a position to comply with any terms or conditions associated with the grant.

Grants relating to the purchase of plant and equipment are recognised as deferred income and they are credited to profit or loss on a straight-line basis over the expected lives of the related assets. Grants that compensate the Group for expenses incurred are recognised in profit or loss on a systematic basis in the periods in which the expenses are recognised.

r. New and amended standards adopted

No new standards and interpretations issued by the IASB have had a significant impact on the consolidated financial statements.

4. Revenue

	2023 **$000**	**2022** **$000**
Sales of vanadium products	3,308	5,163
Sales of ferro-molybdenum	2,698	1,509
Sales of gravel and waste rock	143	86
Service revenue	15	15
Total revenue from customers under IFRS 15	**6,164**	**6,773**
Other revenue - change in fair value of customer contracts	(448)	(502)

	2023 $000	2022 $000
Total revenue	**5,716**	**6,271**

Vanadium and molybdenum products

Under certain sales contracts the single performance obligation is the delivery of AMV to the designated delivery point at which point possession, title and risk on the product transfers to the buyer. The buyer makes an initial provisional payment based on volumes and quantities assessed by the Company and market spot prices of vanadium pentoxide for AMV at the date of shipment. The final payment is received once the product has reached its final destination with adjustments for quality / quantity and pricing. The final pricing is based on the historical average market prices during a quotation period based on the date the product reaches the port of destination and an adjusting payment or receipt will be made to the revenue initially received. Where the final payment for a shipment made prior to the end of an accounting period has not been determined before the end of that period, the revenue is recognised based on the spot price that prevails at the end of the accounting period.

Other revenue related to the change in the fair value of amounts receivable and payable under the sales contracts between the date of initial recognition and the period end resulting from market prices are recorded as other revenue.

5. Cost of sales

	2023 $000	2022 $000
Materials	4,832	5,863
Wages, salaries and related taxes	1,128	937
Depreciation	425	406
Electricity	94	111
Other	290	199
	6,769	**7,516**

6. Other income

	2023 $000	2022 $000
Currency conversion gain	8	41
Other (sales of equipment)	12	36

	2023 $000	2022 $000
	20	**77**

7. Administrative expenses

	2023 $000	2022 $000
Wages, salaries and related taxes	2,023	1,619
Professional services	315	263
Taxes other than income tax	18	15
Listing and reorganisation expenses	155	162
Audit	125	111
Materials	48	37
Rent	40	53
Irrecoverable debts	52	-
Repairs and maintenance	58	-
Depreciation and amortisation	51	99
Insurance	44	44
Staff training	15	-
Research and development costs	10	-
Bank fees	23	23
Travel expenses	89	16
Utilities	5	-
Communication and information services	30	12
Other	270	91
	3,371	**2,545**

8. Other expenses

	2023 $000	2022 $000
Currency conversion loss	59	204
Write-down of inventory to net realisable value	254	160
Write-down of obsolete assets	1	54
Share-based payment expense	15	5
Other	142	3
	471	**426**

9. Personnel costs

	2023 $000	2022 $000
Wages, salaries and related taxes	3,232	2,569
	3,232	**2,569**

During 2023 personnel costs of US$1,128,000 (2022: US$937,000) have been charged to cost of sales, US$2,023,000 (2022: US$1,619,000) to administrative expenses and US$81,000 (2022: US$43,000) were charged to cost of inventories which were not yet sold as at the year end.

10. Finance costs

	2023 $000	2022 $000
Net foreign exchange costs / (gain)	(83)	(195)
Interest expense on financial liabilities (bonds)	266	77
Net finance costs / (income)	**183**	**(118)**

11. Income tax

The Group's applicable tax rates in 2023 are an income tax rate of 20% for Kazakhstan registered subsidiaries (2022: 20%) and 0% (2022: 0%) for Guernsey registered companies. The Kazakh tax rate has been applied below as this is most reflective of the Group's trading operations and tax profile.

During the years ended 31 December 2023 and 2022 the Group incurred tax losses and, therefore, did not recognise any current income tax expense.

Unrecognised deferred tax assets are described in Note 15.

Reconciliation of effective tax rate:

	2023		2022	
	$000	%	$000	%
Loss before tax (Group)	**(5,251)**	**100**	**(4,286)**	**100**
Income tax at the applicable tax rate	(1,050)	20	(857)	20
Effect of unrecognised deferred tax assets / (utilisation of previously unrecognised losses)	1,417	(27)	923	(22)
Net non-deductible expenses/non-taxable income or loss	(367)	7	(66)	2
	-	-	-	-

12. Property, plant and equipment

	Land and buildings $000	Plant and equipment $000	Vehicles $000	Computers $000	Other $000	Construction in progress $000	Total $000
Cost							
Balance at 1 January 2022	2,060	2,639	509	39	102	2,632	7,981
Additions	37	188	-	10	89	1,142	1,466
Transfers	23	83	-	-	-	(106)	-
Disposals	(23)	(9)	(17)	(4)	(10)	(41)	(104)
Foreign currency translation difference	(138)	(178)	(34)	(2)	(7)	(179)	(538)
Balance at 31 December 2022	**1,959**	**2,723**	**458**	**43**	**174**	**3,448**	**8,805**
Balance at 1 January 2023	1,959	2,723	458	43	174	3,448	8,805
Additions	-	104	56	6	96	716	978
Transfers	3,010	962	-	-	-	(3,972)	-
Disposals	-	(19)	-	-	(17)	-	(36)
Foreign currency translation difference	46	52	8	-	3	50	159
Balance at 31 December 2023	**5,015**	**3,822**	**522**	**49**	**256**	**242**	**9,906**
Depreciation							
Balance at 1 January 2022	688	2,028	327	28	47	-	3,118
Depreciation for the period	66	374	34	5	25	-	504
Disposals	-	(9)	(17)	(3)	(11)	-	(40)
Foreign currency translation difference	(46)	(137)	(22)	(2)	(4)	-	(211)
Balance at 31 December 2022	**708**	**2,256**	**322**	**28**	**57**	**-**	**3,371**
Balance at 1 January 2023	708	2,256	322	28	57	-	3,371
Depreciation for the period	130	341	33	5	47	-	556
Disposals	-	(18)	-	-	(17)	-	(35)
Foreign currency translation difference	13	42	6	-	2	-	63
Balance at 31 December 2023	**851**	**2,621**	**361**	**33**	**89**	**-**	**3,955**

	Land and buildings $000	Plant and equipment $000	Vehicles $000	Computers $000	Other $000	Construction in progress $000	Total $000
Carrying amounts							
At 1 January 2022	**1,372**	**611**	**182**	**11**	**55**	**2,632**	**4,863**
At 31 December 2022	**1,251**	**467**	**136**	**15**	**117**	**3,448**	**5,434**
At 31 December 2023	**4,164**	**1,201**	**161**	**16**	**167**	**242**	**5,951**

During 2023 a depreciation expense of US$425,000 (2022: US$406,000) has been charged to cost of sales, excluding cost of finished goods that were not sold at year end, US$51,000 (2022: US$98,000) to administrative expenses, and US$80,000 has been charged to cost of finished goods that were not sold at the year end (2022: US$4,000). Construction in progress relates to upgrades to the processing plant associated with the expansion of the facility.

13. Exploration and evaluation assets

The Group's exploration and evaluation assets ("E&EA") relate to the Balasausqandiq deposit. During the year, the Group capitalised the cost of geological and geotechnical drilling work, technical design, sample assaying and project management costs, all relating to the Company's Stage 1 feasibility study. As at 31 December 2023 the carrying value of exploration and evaluation assets was US$7.1m (2022: US$4.2m).

	2023	2022
	$000	$000
Balance at 1 January	4,208	1,434
Additions (Stage 1 feasibility study)	2,931	2,871
Foreign currency translation difference	6	(97)
Balance at 31 December	**7,145**	**4,208**

14. Intangible assets

	Mineral rights	Patents	Computer software	Total
	$000	$000	$000	$000
Cost				
Balance at 1 January 2022	88	33	3	124
Additions	-	1	-	1
Foreign currency translation difference	(5)	(2)	-	(7)
Balance at 31 December 2022	**83**	**32**	**3**	**118**
Balance at 1 January 2023	83	32	3	118
Additions	-	1	-	1
Foreign currency translation difference	1	1	-	2
Balance at 31 December 2023	**84**	**34**	**3**	**121**
Amortisation				
Balance at 1 January 2022	88	12	3	103
Amortisation for the year	-	1	-	1
Foreign currency translation difference	(5)	-	-	(5)
Balance at 31 December 2022	**83**	**13**	**3**	**99**
Balance at 1 January 2023	83	13	3	99
Amortisation for the year	-	1	-	1
Foreign currency translation difference	1	-	-	1

Balance at 31 December 2023	**84**	**14**	**3**	**101**
Carrying amounts				
At 1 January 2022	-	**21**	**-**	**21**
At 31 December 2022	**-**	**19**	**-**	**19**
At 31 December 2023	**-**	**20**	**-**	**20**

During 2023 and 2023 the amortisation of intangible assets was charged to administrative expenses.

15. Deferred tax assets and liabilities

Unrecognised deferred tax assets

	2023	**2022**
	$000	**$000**
Temporary deductible differences	912	292
Tax losses carried forward	16,887	14,470
Unrecognised tax deferred tax assets	(17,799)	(14,762)
	-	-

Deferred tax assets have not been recognised in respect of these items given the taxable loss in the year and because the Kazakhstan processing operations benefit from a tax incentive agreement which reduces the tax payable to nil and it is, therefore, uncertain that future taxable profit will be available against which the Group can utilise the benefits therefrom. The tax incentive agreement is effective for ten years starting from 2018.

The increase in carried forward tax losses comprises the tax loss for the period and the effect of resubmissions of previous tax filings which contributed to an increase in tax losses.
Temporary deductible differences mostly relate to property, plant and equipment. Unutilised tax losses expire after 10 years from the year of origination.

Expiry dates of unrecognised deferred tax assets in respect of tax losses carried forward at 31 December 2023 are presented below:

Expiry year	**$000**
2024	474
2025	228
2026	801
2027	480
2028	514
2029	2,148
2030	3,385

Expiry year	$000
2031	1,564
2032	3,948
2033	3,104
	16,646

Unrecognised deferred tax assets above are calculated based on the Kazakh tax rate of 20%.

16. Inventories

	2023 $000	2022 $000
Raw materials and consumables	1,456	1,379
Finished goods	517	216
Work in progress	10	33
	1,983	**1,628**

During 2023 inventories expensed to profit and loss amounted to US$4.9m (2022: US$5.9m).

17. Trade and other receivables

Current	2023 $000	2022 $000
Trade receivables from third parties	264	65
Due from employees	66	50
VAT receivable	1,049	1,062
Other receivables	4	10
	1,383	1,187
Expected credit loss provision for receivables	(67)	(36)
	1,316	**1,151**

The expected credit loss provision for receivables relates to credit impaired receivables which are in default and the Group considers the probability of collection to be remote given the age of the receivable and default status.

18. Prepayments

	2023 $000	2022 $000
Non-current		
Prepayment for E&EA	470	697
Other prepayments	418	576
	888	**1,273**

Current		
Prepayments for goods and services	762	911
	762	**911**

The prepayments for E&EA are related mainly to the Stage 1 feasibility study.

19. Cash and cash equivalents

	2023	2022
	$000	**$000**
Cash at current bank accounts	1,488	1,010
Cash at bank deposits	417	3,321
Petty cash	47	-
Cash and cash equivalents	**1,952**	4,331

20. Equity

(a) Share capital

Number of shares unless otherwise stated	Ordinary shares	
	31 December 2023	**31 December 2022**
Par value	-	-
Outstanding at beginning of year	449,702,150	377,676,799
Shares issued	33,520,088	72,025,351
Outstanding at end of year	**483,222,238**	**449,702,150**

Ordinary shares

All shares rank equally. The holders of ordinary shares are entitled to receive dividends as declared from time to time and are entitled to one vote per share at meetings of the Company.

Convertible loan notes

During the year, the convertible loan notes held by Vision Blue were converted into equity under the terms of the Convertible Loan Note agreement in place between the Company and Vision Blue. The conversion resulted in 33,520,088 ordinary shares being issued to Vision Blue taking their total shareholding in the Company to 111,071,783 ordinary shares representing 22.99% of the Company's issued share capital (2022: 77,551,695 ordinary shares / 17.3%).

Reserves

Share capital: Value of shares issued less costs of issuance.

Convertible loan notes: Further investment rights at issue price.

Additional paid in capital: Amounts due to shareholders which were waived.

Share-based payment: Share options issued during the year.
Foreign currency translation reserve: Foreign currency differences on retranslation of results from functional to presentational currency and foreign exchange movements on intercompany balances considered to represent net investments which are considered as permanent equity.
Accumulated losses: Cumulative net losses.

(b) Share options

Summary

All share options are issued under the Company's share option plan. The share option plan is a scheme that entitles key management personnel to purchase shares in the Company at the market price of the shares at the date of grant.

The following table summarise the activities and status of the Company's share option plan during the year and at the year end.

	2023 share options	**2023 Weighted average exercise price (US$)**
Outstanding at the beginning of the year	500,000	-
Granted during the year	500,000	0.091
Exercised during the year	-	-
Expired / cancelled during the year	-	-
Outstanding at the year end	**1,000,000**	0.091

Share options granted during the year and in force at the year end were as follows:

Grant date	**Number of options**	**Exercise date**	**Exercise price per share (US$)**	**Expiry date**	**Remaining contractual life (years)**
29 June 2022	250,000	29 June 2025	0.162	29 June 2027	3.5
22 September 2022	250,000	22 September 2025	0.151	22 September 2027	3.8
12 September 2023	500,000	12 September 2026	0.116	12 September 2028	4.8
	1,000,000				

Share-based payment reserve

The following table summarises the changes in the Company's share-based payment reserve during the year:

	Share-based payment reserve (US$)
At 1 January 2023	5,000

Exercise of share options	-
Issue of options	14,863
At 31 December 2023	19,863

Share-based payment expense

During the year, the Company recognised US$14,863 (2022: US$5,000) of share-based payment expense. The fair value of the share-based compensation was estimated on the dates of grant using the Black-Scholes option pricing model with the following assumptions:

Grant date	12 September 2023
Share price at grant date (US$)	0.116
Exercise price (US$)	0.116
Expected volatility*	59.21%
Expected life (years)	4
Expected dividend yield (US$)	-
Risk-free interest rate**	4.64%
Fair value per option (US$)	0.057

*expected volatility is derived from the Company's historical share price volatility

**the risk-free rate of return is based on UK government gilts for a term consistent with the option life

All share options granted during the year have non-market vesting conditions that were not considered in measuring fair value.

(c) Dividends

No dividends were declared for the year ended 31 December 2023 (2022: US$ nil).

(d) Loss per share (basic and diluted)

The calculation of the basic and diluted loss per share has been based on the loss attributable to ordinary shareholders and weighted-average number of ordinary shares outstanding. There are no convertible bonds and convertible preferred stock, so basic and diluted losses are equal.

(i) Loss attributable to ordinary shareholders (basic and diluted)

	2023	**2022**
	$000	**$000**
Loss for the year, attributable to owners of the Company	(5,251)	(4,286)
Loss attributable to ordinary shareholders	**(5,251)**	**(4,286)**

(ii) Weighted-average number of ordinary shares (basic and diluted)

Shares	**2023**	**2022**
Issued ordinary shares at 1 January (after subdivision)	449,702,150	377,676,799
Effect of shares issued (weighted)	3,857,106	21,410,276

Shares	2023	2022
Weighted-average number of ordinary shares at 31 December	**453,559,256**	**399,087,075**
Loss per share of common stock attributable to the Company (basic and diluted) (US$)	(0.012)	(0.011)

21. Loans and borrowings

In 2023 the Company launched a US$20m bond programme in Kazakhstan ("the Programme") and issued two tranches of unsecured corporate bonds under the Programme with effective interest rates of 9.2% and 10.4%, respectively.

With respect to the first tranche of bonds, investors have subscribed for a total of 1,500 bonds with a nominal value of US$2,000 each. These bonds are unsecured, have a three-year term and bear a coupon rate of 9%, paid twice-yearly. The bonds have been listed on AIX with ISIN number KZX000001474.

With respect to the second tranche of bonds, investors have subscribed for a total of 50,000 bonds with a nominal value of US$100 each. These bonds are unsecured, have a three-year term and bear a coupon rate of 10%, paid quarterly. The bonds have been listed on AIX with ISIN number KZX000001623.

	2023 $000	2022 $000
Non-current liabilities		
Bonds payable	7,393	-
	7,393	**-**
Current liabilities		
Bonds payable	-	1,108
Interest payable	134	18
	134	**1,126**

Refer to Note 30 with respect to the issue of the third tranche of bonds by the Company after the year end.

During the year, outstanding bonds of US$1.12m were repaid to bondholders (2022: US$0.3m)

Terms and conditions of outstanding bonds at 31 December 2023 were as follows:

USD	Currency	Effective interest rate	Nominal amount $000	Actual amount $000	Coupon rate	Coupon paid	Interest
Bonds payable	USD	9.2%	3,000	2,898	9%	-	96
Bonds payable	USD	10.4%	5,000	4,874	10%	125	142
			8,000	**7,772**		**125**	**238**

Non-cash transactions from financing activities are shown in the reconciliation of liabilities from financing transactions.

Loans and borrowings	**2023**	**2022**
	$000	**$000**
At 1 January	1,127	1,427
Cash flows:		
-Interest paid	(157)	(82)
-Repayment of loans and borrowings	(1,112)	(300)
-Proceeds from loans and borrowings	7,784	-
Total	**7,642**	**1,045**
Non-cash flows		
- Interest accruing in period	273	82
- Bond discount / premium	(388)	-
At 31 December	**7,527**	**1,127**

22. Provisions

	2023	**2022**
	$000	**$000**
Balance at 1 January	33	42
Change in estimate	(2)	(7)
Foreign currency translation difference	-	(2)
Balance at 31 December	**31**	**33**
Non-current	31	33
	31	**33**

Site restoration

A provision has been recognised in respect of the Group's obligation to rectify environmental issues at the Balasausqandiq deposit in the Kyzylorda region.

In accordance with Kazakhstan environmental legislation, any land contaminated by the Group in the Kyzylorda region must be restored before the end of 2043. The provision was estimated by considering the risks related to the amount and timing of restoration costs based on the known level of damage. Because of the long-term nature of the liability, the main uncertainty in estimating the provision is the costs that will be incurred. In particular, the Group has assumed that the site will be restored using technology and materials that are available currently. A fund to cover this liability will be collected via annual statutory contributions to the special liquidation fund at the rate of 1% of mining expenses as stipulated in the Subsoil Use Agreement. Based on the working program which forms part of the Subsoil Use Agreement the total amount is expected to reach KZT 675m or c. US$1,838,000. The present value of restoration costs was determined by discounting the estimated restoration cost using a Kazakh risk-free rate for the respective period, and average inflation for the last 10 years of 8.8%. The estimated period for discounting was 21 years (2022: 22 years). Environmental legislation in Kazakhstan continues to evolve and it is difficult to determine the exact standards required by the current legislation in restoring sites such as this. Generally, the standard of restoration is determined based on discussions with the Kazakh government at the time that restoration commences.

23. Trade and other payables

	2023	**2022**
	$000	**$000**
Trade payables	1,781	1,889
Debt to directors/key management (Note 29)	79	214
Debt to employees	192	99
Other taxes	72	171
Advances received	17	10
	2,141	**2,383**

24. Deferred income

	2023	**2022**
	$000	**$000**
Government grants	102	-
	102	**-**

During 2023, the Group was awarded grant funding by the Kazakhstan National Scientific Council for the development of technology for the production of mixed vanadium oxides for use in vanadium redox flow batteries.

25. Financial instruments and risk management

(a) Overview

The Group has exposure to the following risks from its use of financial instruments:

credit risk;

liquidity risk; and

market risk.

This note presents information about the Group’s exposure to each of the above risks, the Group’s objectives, policies and processes for measuring and managing risk, and the Group’s management of capital. Further quantitative disclosures are included throughout these consolidated financial statements.

Risk management framework

The Chief Executive has overall responsibility for the establishment and oversight of the Group’s risk management framework.

The Group’s risk management policies are established to identify and analyse the risks faced by the Group, to set appropriate risk limits and controls, and to monitor risks and adherence to limits. Risk management policies and systems are reviewed to reflect changes in market conditions and the Group’s activities. The Group aims to develop a disciplined and constructive control environment in which all employees understand their roles and obligations.

(b) Credit risk

Credit risk is the risk of financial loss to the Group if a customer or counterparty to a financial instrument fails to meet its contractual obligations and arises principally from the Group’s receivables from customers.

(i) Exposure to credit risk

The carrying amount of financial assets represents the maximum credit exposure. The maximum exposure to credit risk at the reporting date was:

	Carrying amount	
	2023 $000	**2022 $000**
Trade and other receivables, excluding amounts due from employees and VAT receivable	268	75
Cash and cash equivalents	1,905	4,331
	2,173	**4,406**

The maximum exposure to credit risk for trade and other receivables at the reporting date by geographic region was:

	Carrying amount	
	2023 $000	**2022 $000**
Kazakhstan	268	75
	268	**75**

The maximum exposure to credit risk for trade and other receivables at the reporting date by type of customer was:

	Carrying amount	
	2023	**2022**
	$000	**$000**
Trade receivables:		
Wholesale customers	264	65
Other receivables:		
Other	4	10
	268	**75**

The ageing of trade and other receivables at the reporting date was:

	Gross 2023 $000	Impairment 2023 $000	Net 2023 $000	Gross 2022 $000	Impairment 2022 $000	Net 2022 $000
Not past due	268	-	268	75	-	75
Past due more than 180 days	67	(67)	-	36	(36)	-
	335	**(67)**	**268**	**111**	**(36)**	**75**

The movement in the allowance for expected credit losses in respect of other receivables during the year was as follows:

	2023	2022
	$000	**$000**
Balance at beginning of the year	36	35
Expected gain change	31	1
Balance at end of the year	**67**	**36**

Amounts due from customers at the year end have been subsequently collected in 2024, except for credit impaired amounts. No additional expected credit loss provision has been applied.

(ii) Cash and cash equivalents

As at 31 December 2023 the Group held cash of US$1.95m (2022: US$4.33m), of which bank balances of US$1.90m (2022: US$4.31m) represent its maximum credit exposure on these assets, which excludes petty cash. 72% (2022: 92%) is held in banks with credit ratings of A+ to AA and 28% in banks with credit ratings of B to BB (2022: 8%). Credit ratings are provided by the rating agency FitchRatings.

(c) Liquidity risk

Liquidity risk is the risk that the Group will encounter difficulty in meeting the obligations associated with its financial liabilities that are settled by delivering cash or another financial asset. The Group's approach to managing liquidity is to ensure, as far as possible, that it will always have sufficient liquidity to meet its liabilities when due, under both normal and stressed conditions, without incurring unacceptable losses or risking damage to the Group's reputation.

The following are the contractual maturities of financial liabilities. It is not expected that the cash flows included in the maturity analysis could occur significantly earlier, or at significantly different amounts:

2023

	Carrying amount $000	Contractual cash flows $000	On demand $000	0-6 mths $000	6 months - 1 year $000	1-3 years $000
Financial liabilities						
Trade and other payables	1,781	1,781	-	1,781	-	-
Loans and borrowings	7,527	7,527	-	134	-	7,393
	9,308	**9,308**	**-**	**1,915**	**-**	**7,393**

2022

	Carrying amount $000	Contractual cash flows $000	On demand $000	0-6 mths $000	6 months - 1 year $000	1-3 years $000
Financial liabilities						
Trade and other payables	1,889	1,889	-	1,889	-	-
Loans and borrowings	1,126	1,126	-	1,126	-	-
	3,015	**3,015**	**-**	**3,015**	**-**	**-**

(d) Market risk

Market risk is the risk that changes in market prices, such as foreign exchange rates, interest rates and equity prices will affect the Group's income or the value of its holdings of financial instruments. The objective of market risk management is to manage and control market risk exposures within acceptable parameters, while optimising the return.

In order to ascertain market risk the Group analyses the impact of different levels of vanadium pentoxide and molybdenum prices on profitability as well as closely monitoring the market conditions for other leading international organisations operating in the vanadium industry.

(i) Currency risk

The Group is exposed to currency risk on sales, purchases and borrowings that are denominated in a currency other than the respective functional currency of Group entities.

In respect of monetary assets and liabilities denominated in foreign currencies, the Group ensures that its net exposure is kept to an acceptable level by buying or selling foreign currencies at spot rates when necessary to address short term imbalances.

Exposure to currency risk

The Group's exposure to foreign currency risk was as follows based on notional amounts:

2023	US$-denominated 2023 $000	GBP-denominated 2023 $000	EUR-denominated 2023 $000	RUB-denominated 2023 $000	KZT-denominated 2023 $000
Cash and cash equivalents	1,257	115	-	-	580
Trade and other payables	(1,104)	-	(113)	(50)	(875)
Loans and borrowings	(7,527)	-	-	-	-
Net exposure	**(7,374)**	**115**	**(113)**	**(50)**	**(295)**

2022	US$-denominated 2022 $000	GBP-denominated 2022 $000	EUR-denominated 2022 $000	RUB-denominated 2022 $000	KZT-denominated 2022 $000
Cash and cash equivalents	22	3,940	-	5	3,672
Trade and other payables	(654)	(111)	(108)	(55)	(1,455)
Loans and borrowings	(1,126)	-	-	-	-
Net exposure	**(1,758)**	**3,829**	**(108)**	**(50)**	**2,217**

The following significant exchange rates applied during the year:

in US$	**Average rate**		**Reporting date spot rate**	
	2023	**2022**	**2023**	**2022**
KZT 1	0.0022	0.0022	0.0022	0.0022
GBP 1	1.2429	1.2363	1.2704	1.2030
RUB 1	0.0119	0.0150	0.0111	0.0139
EUR 1	1.0810	1.0530	1.1049	1.0653

(ii) Interest rate risk

Changes in interest rates do not significantly impact the Group's position as at 31 December 2023. Management does not have a formal policy of determining how much of the Group's exposure should be to fixed or variable rates. However, at the time of raising new loans or borrowings management uses its judgment to decide whether it believes that a fixed or variable rate would be more favourable to the Group over the expected period until maturity.

The bonds interest rates are fixed by agreement.

Changes in interest rates at the reporting date would not significantly affect profit or loss.

(iii) Other risks

IAS 1 requires the disclosure of the risks and measures to meet the risks related to external capital requirements.

The Group manages its capital to ensure that entities in the Group will be able to continue as going concerns while maximising returns to shareholders through the optimisation of the debt and equity balance. The Group's overall strategy remains unchanged from 2022.

The capital structure of the Group consists of net debt (see Note 21) and the equity of the Group (see Note 20).

The Group is not subject to any externally imposed capital requirements.

The Group reviews the capital structure on a regular basis giving consideration to the cost of capital and the risks associated with each class of capital.

Debt is defined as long- and short-term borrowings as detailed in Note 21.

Equity includes all capital and reserves of the Group that are managed as capital.

(e) Fair values versus carrying amounts

Management believes that the fair value of the Group's financial assets and liabilities approximates their carrying amounts.

Categories of financial instruments

	2023	**2022**
	$000	**$000**
Financial assets (includes cash)		
Trade and other receivables	268	75
Cash at amortised cost	1,905	4,331
	2,173	4,406
Financial liabilities – measured at amortised cost		
Trade and other payables at amortised cost	1,781	1,889
Loans and borrowings at amortised cost	7,527	1,126
	9,308	3,015

The basis for determining fair values is disclosed below.

Financial instruments measured at fair value are presented by level within which the fair value measurement is categorised. The levels of fair value measurement are determined as following:
Level 1: quoted prices (unadjusted) in active markets for identical assets or liabilities.

Level 2: inputs other than quoted prices included in Level 1 that are observable for the asset or liability, either directly (i.e. as prices) or indirectly (i.e. derived from prices).
Level 3: inputs for the asset or liability that are not based on observable market data (unobservable inputs).

The Group's contract receivables and liabilities at the year end are recorded at fair value through profit and loss and fair valued based on the estimated forward prices that will apply under the terms of the sales contracts upon the product reaching the port of destination. The trade receivable fair value reflects amounts receivable from the customer adjusted for forward prices expected to be realised.

In the absence of observable forward prices the forward price is estimated using a valuation methodology which is based on vanadium spot prices at 31 December 2023 adjusted for the discount for AMV, time value of money and carry costs. Given the short period to final pricing the time value of money and carry costs are not significant and the forward price materially approximates the spot price at year end with the adjustment to reflect the difference between vanadium pentoxide prices and AMV. Any fair value of trade receivables and payables at FVTPL are categorised at Level 3. During the year there were no transfers between levels of fair value hierarchy.

26. Commitments

Under the conditions of the Subsoil Use Agreement under which the Group has the right to develop and exploit the Balasausqandiq deposit, the Group is obliged to undertake a minimum level of mining and to make certain levels of expenditure on the training of Kazakh employees, research and development and the development of the Shieli region. There is also an obligation to set aside funds to provide for the eventual costs of mine closure and or site reclamation.

The current obligations of the Group under the Subsoil Use Agreement, as modified by Addendum 4, are as follows:

- Minimum quantity of ore to be mined:

Year	Tonnes
2023	567,700
2024	788,100
2025	1,102,300
2026	1,102,300
2027	1,102,300
2028	1,102,300
2029 onwards	1,102,300

- Training costs should be equal to 1% of the Group's capital expenditures on subsoil activities. Costs in 2023: US$6,000 (2022: US$7,000)

- Research and development should be equal to 1% of the Group's income from subsoil activities. Costs in 2023: US$10,000 (2022: US$46,272)
- The addition to the liquidation fund should be equal to 1% of the Group's costs of mining ore. Costs in 2023: US$12,000 (2022: US$12,000)
- Expenditure on social development of the Shieli region should be equal to 1.5% of the Group's costs of mining ore. Costs in 2023: US$1,450 (2022: US$330).

All obligations of the Subsoil Use Agreement have been complied with except for certain exploration work programme requirements, specifically the volume of ore to be mined.

The Group has requested formal amendments to the Subsoil Use Agreement that relate to the transfer of the mining of certain levels of ore to future years. As a result, and if the amendments are granted, the obligation for mining in 2023 and 2024 will be equal to 16,500 tonnes of ore, 2025 to 2026 will be equal to 33,100 tonnes of ore, 2027 will be equal to 555,100 tonnes, 2028 will be equal to 1,102,300 tonnes and starting from 2029 1,653,400 tonnes of ore, per year. The request is in the process of review with the relevant authorities of the Kazakh government. Addendum 4 to the Subsoil Use Agreement was successfully negotiated by the Group during 2023.

27. Contingencies

(a) Insurance

The insurance industry in the Kazakhstan is in a developing state and many forms of insurance protection common in other parts of the world are not yet generally or economically available. The Group does not have full coverage for its plant facilities, business interruption or third party liability in respect of property or environmental damage arising from accidents on Group property or relating to Group operations. There is a risk that the loss or destruction of certain assets could have a material adverse effect on the Group's operations and financial position.

(b) Taxation

The taxation system in Kazakhstan is relatively new and is characterised by frequent changes in legislation, official pronouncements and court decisions which are often unclear, contradictory and subject to varying interpretations by different tax authorities. Taxes are subject to review and investigation by various levels of authorities which have the authority to impose severe fines, penalties and interest charges. A tax year generally remains open for review by the tax authorities for five subsequent calendar years but under certain circumstances a tax year may remain open longer.

These circumstances may create tax risks in Kazakhstan that are more significant than in other countries. Management believes that it has provided adequately for tax liabilities based on its interpretations of applicable tax legislation, official pronouncements and court decisions. However, the interpretations of the relevant authorities could differ and the effect on these consolidated financial statements, if the authorities were successful in enforcing their interpretations, could be significant.

There are no tax claims or disputes at present.

28. Segment reporting

The Group's operations are split into three segments based on the nature of operations: processing, subsoil operations (being operations related to exploration and mining) and corporate segment for the purposes of IFRS 8: *Operating Segments*. The Group's assets are primarily concentrated in the Republic of Kazakhstan and the Group's revenues are derived from operations in, and connected with, the Republic of Kazakhstan.

2023

	Processing $000	**Subsoil $000**	**Corporate $000**	**Total $000**
Revenue	5,716	-	-	5,716
Cost of sales	(6,769)	-	-	(6,769)
Other income	15	-	5	20
Administrative expenses	(1,130)	(41)	(2,200)	(3,371)
Other expenses	(456)	-	(15)	(471)
Distribution expenses	(193)	-	-	(193)
Finance costs	(139)	-	(44)	(183)
Loss before tax	**(2,956)**	**(41)**	**(2,254)**	**(5,251)**

2022

	Processing $000	**Subsoil $000**	**Corporate $000**	**Total $000**
Revenue	6,271	-	-	6,271
Cost of sales	(7,516)	-	-	(7,516)
Other income	73	-	4	77
Administrative expenses	(763)	(24)	(1,758)	(2,545)
Other expenses	(426)	-	-	(426)
Distribution expenses	(265)	-	-	(265)
Finance costs	531	-	(413)	118
Loss before tax	**(2,095)**	**(24)**	**(2,167)**	**(4,286)**

Included in revenue arising from processing are revenues of US$5,200,000 (2022: US$6,100,000) which arose from sales to three of the Group's largest customers. No other single customer contributes 10 per cent or more to the Group's revenue.

All of the Group's assets are attributable to the Group's processing operations.

Sales to the Group's largest customers in 2023 were as follows:

Customer A	US$3.3m (57%) (2022: US$3.2m (50%))
Customer B	US$1.6m (28%) (2022: US$1.6m (25%))
Customer C	US$0.3m (5%) (2022: US$1.3m (20%))

29. Related party transactions

Transactions with management and close family members

Management remuneration

Key management personnel received the following remuneration during the year, which is included in personnel costs (see Note 9):

	2023 $000	2022 $000
Wages, salaries and related taxes	1,114	986

Refer to Note 23 for details of payables to key management and the Directors' Report for shares issued to key management. The amount of wages and salaries outstanding at 31 December 2023 is equal to US$79,000 (2022: US$214,000).

Other

On 1 February 2022, the Company entered into a sub-let agreement between Turian Sports Horses Limited as head lessee and NH Limited as landlord for the rental of office space in Guernsey. Turian Sports Horses Limited is wholly owned by James Turian, one of the Company's directors and NH Limited is owned by James Turian and Sharon Turian, equally. Sums paid to NH Limited during the year under the terms of the sub-let agreement were US$21,640 (2022: US$17,339).

30. Subsequent events

On 30 January 2024, the Company listed and sold a third tranche of bonds with a nominal value of US$5m under the terms of the Kazakhstan Bond Programme on the AIX.