Ferro-Alloy Resources Limited

Annual Report
for the year ended
31 December 2019

Contents

Report on operations

Introduction

2019 was an eventful year for the Group. On 28 March 2019 Ferro-Alloy Resources Limited was admitted to listing on the London Stock Exchange, raising $6.9m before expenses for the purpose of expanding production from the existing process plant and upgrading the feasibility study of the Balasausqandiq project to Western Bankable standards.

In spite of the dual headwinds of a steep fall in the price of vanadium and the Covid-19 crisis, the Company has made significant progress, with production now running at a rate nearly three times higher than in the first quarter of 2019 and capacity for significantly more as power availability is increased and the relaxation of Covid-19 government measures in Kazakhstan allow for full utilisation.

Production

During 2019 a significant amount of new equipment was installed. Although, for various reasons, this capacity has not yet been fully utilised, the installed processing capacity of the plant has now increased to around 60 tonnes of vanadium pentoxide per month, depending on the grade of raw material. Full utilisation of this capacity is being limited by Covid-19 issues and by the availability of power which is currently being expanded, so the full benefit of this increase in capacity has not yet been realised. This significant increase in capacity was achieved without any long-term stoppage of operations, with production in 2019 amounting to 152 tonnes, up 21.6% from 125 tonnes in 2018. All production figures in this report refer to tonnes of vanadium pentoxide contained in ammonium metavanadate, “AMV”.

The increase in capacity has been achieved by the commissioning of an entirely new pyrometallurgical production process aimed at treating higher grade vanadium-containing secondary materials which require an initial roasting step and a different leaching approach. At the same time, significant improvements have been made to the existing process line resulting in product quality improving.

The creation of the pyrometallurgical line accounted for the largest proportion of investments in 2019. The first of two roasting ovens had been purchased in 2018 and initial testing guided the installation of a second oven in 2019 and the installation of new leach equipment and press filters to greatly improve and expand this operation. Production from this line was limited during 2019 to around 20 tonnes whilst a single oven was in operation and the line tested, but the pyrometallugrical line will account for the bulk of the expansion from 2020 onwards.

Preparatory work has also been completed on the next stage of expansion, planned to take capacity up to around 1,500 tonnes per year. A new 1,000 m² building has been constructed to house the decomposition oven to convert the AMV to vanadium pentoxide and an electric arc furnace which will allow the production directly of ferro-vanadium.

Work on the construction of a link, with appropriate transformer capacity, to the adjacent high voltage power line has started. It was planned to finalise it in the second quarter of 2020 but little work has been done in the second quarter as a result of the Covid-19 crisis. In the fourth quarter of 2019 we experienced significant outages of power due to heavy winter conditions affecting the existing line which resulted in high costs for back-up power generation and reduced production. The new high voltage power line will increase reliability, the cost of power will reduce by half, and existing plant capacity can be better utilised.

Production and shipments by quarter in 2019 were:

Quarter	Production (tonnes of vanadium pentoxide contained in AMV)	Shipments (tonnes of vanadium pentoxide contained in AMV)
Q1	32,093	39,066
Q2	39,037	40,551
Q3	38,253	40,032
Q4	43,073	35,701
Total	152,456	155,350

The Company's only product during the year was AMV, a precursor product from which vanadium pentoxide is made by heating in a dissociation oven. AMV is sold on the basis of the content of vanadium pentoxide, less a discount to standard vanadium pentoxide. All production figures are therefore quoted in terms of the content of vanadium pentoxide.

Covid-19

Kazakhstan has been less affected by Covid-19 than many European countries but nevertheless, there have been over 31,000 detected cases and, sadly, over 140 people have died. With a population some 28% of that of the UK, this is a relatively small but still serious outbreak. Kazakhstan was quick to respond and declared a state of emergency on 16 March 2020. Measures taken to control the spread have included a complete lock-down of several major cities, the temporary closure of non-essential businesses and industries, and an almost complete standstill on international and domestic travel which is only recently beginning to be relaxed. International flights are restarting from a limited number of countries but most categories of visitors are still prohibited from entry.

The protection of the health and safety of our employees is our paramount concern and the Company has implemented all the measures recommended and required by the Kazakhstan authorities. So far, none of our employees has been affected and our operations have continued. However, the restrictions on travel have disrupted and curtailed operations in a number of ways which have reduced output and progress with our projects.

The Company's main operation in Kazakhstan is manned by two teams of workers, each working for half of the month while residing on site, followed by half of the month on leave. During the lock-down it was not possible to rotate staff as usual, or to bring some professional managers to site from their homes which in many cases are long distances from the operation. Bringing some subcontractors and their equipment to site was also impossible.

The Company responded to these challenges by keeping some personnel on site for longer than their usual rotation but the more technically difficult production circuit that treats iron concentrates was closed in March 2020 and only reopened at the beginning of June 2020, resulting in a loss of production of around 30 -33 tons of vanadium pentoxide.

The state of emergency was ended on 11th May 2020 and the lock-down conditions were relaxed on the 3rd of June, with industrial and construction sectors and most types of services reopening. The Company brought the new rotation of staff on 1st June 2020 and immediately re-started production from the iron concentrates with the new team, so that production is now taking place from both lines.

The overseas supplier of a recently installed major item of new equipment is currently unable to visit to make commissioning rectifications which is reducing current output.

Progress on our feasibility study has likewise been slowed. Visits by specialists to site have not been possible, and although there is no curtailment of the shipment of samples, the necessary radiological examination in order to complete transport and import documentation has not yet been possible. The relevant institute is now slowly returning to work and we expect the samples to be shipped shortly.

It is not possible to forecast the course of the Covid-19 outbreak, but Kazakhstan's early intervention and relatively strong countermeasures have enabled an early relaxation of controls and we are now returning to more efficient operations.

Production outlook

Production during the first quarter of 2020 amounted to 49.1 tonnes of vanadium pentoxide (in AMV), having been affected by the closure of the iron-concentrates line and other Covid-19 issues, as well as winter power outages. The iron-concentrates line was restarted on 1 June 2020 so both lines are now in production. There remain some difficulties in bringing appropriate staff and contractors to site, so some limitations are expected to continue for some time.

As mentioned above, a major piece of equipment that was recently installed is not working optimally but the European suppliers are unable to visit site to make repairs because of Covid-19 restrictions on entry of foreign specialists. The Company has ordered the necessary parts independently of the manufacturers, with delivery and installation expected over the next two months.

Production from iron-concentrates is likely to stabilise at around 11 or 12 tonnes per month and from the pyrometallurgical line at an initial restricted rate of 15 - 20 tonnes per month, rising over time as the new power-line is installed and the ongoing commissioning repairs and the release from other Covid-19 restrictions allow a better use of the existing capacity. Depending on the grade of raw material input, we expect to have the potential to reach over 60 tonnes per month of overall production from both lines.

As finance permits, the second major phase of expansion to the existing plant will be re-started, taking the plant potential capacity to 1,500 tonnes of vanadium pentoxide output per year.

Feasibility study

The Company has selected SRK international to produce the upgraded feasibility study, and Coffey Geotechnics Limited, a Tetra Tech group company, to carry out the processing part of the study. Coffey's work is well underway but Covid-19 has prevented the sending of samples outside Kazakhstan because it has been impossible to obtain the required content and safety certificates from government institutes which have closed. The relevant institutes have now reopened and the work is in hand.

Vanadium prices

The price of vanadium pentoxide fell from extreme highs of approaching $30/lb in November 2018 to around US$16/lb by the start of 2019 and to just over US$5 by the end of 2019. The average was around US$9 for 2019, down from US$18 in 2018. The unusually high price in 2018 and early 2019 was caused by production cut-backs during a long period of low prices combined with increases in demand, particularly from the implementation by China of new construction standards which necessitated much higher use of the types of steels that require vanadium. The very high prices resulted in some substitution with what was then cheaper niobium, and some production increases, resulting in an overcorrection which caused the price to fall below its expected long run level. The price so far in 2020 has been more stable in the range $5 - $7 and some forecasters are optimistic that prices will improve as substitution by niobium is reversed and the high-cost production, instigated by the exceptionally high prices, proves uneconomic to sustain.

It is important to note that the high prices of 2018 and early 2019 were exceptional. The Company has been and continues to use a long-term forecast price of around US$7.50/lb, a little higher than today's level, but lower than external forecasters and other vanadium project companies are using.

Both the current market price and our long-term estimate provide an exceptionally high margin to the Company's forecast cash cost of production of US$1.54, contained in the Competent Person's Report on our Balasausqandiq project by GBM.

Covid-19 is likely to affect both world production and supply in the short term, with no clear price-direction. Longer term, the implementation of higher standards for construction steel throughout the world and increasing use of other alloys using vanadium are likely to increase demand for vanadium from its traditional markets. The roll-out of vanadium redox flow batteries for renewable energy storage, which was stalled by the exceptionally high vanadium price in 2018 and 2019, is now expected to resume and grow to be a very significant additional market for vanadium.

Earnings and cash flow

The Group reported revenues of US$1.8m for the period compared to US$4.2m in 2018, reflecting the considerable fall in vanadium prices.

Revenue, and the corresponding trade receivable, are recognised at the time of transfer of control 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 port of destination. Therefore, revenues recognised at the time of shipment are subject to adjustment to prices prevailing up to four months later. Typically, the customer makes a provisional payment based on volumes, quantities and spot prices at the date of shipment and makes a final payment once the product has reached its final destination. As a result, when prices are rising, the final receipt can exceed the initial revenue recorded and vice versa. Where prices decrease significantly, this can result in the Company being in a net payable position if a downward adjustment to the consideration exceeds the provisional payment received.

Amounts receivable from or payable to customers for sales which are still subject to final price determination are initially recorded at the estimated fair value at the time of shipment, with changes in fair value recorded as other revenue. Changes in this fair value during the year and, for those sales where the final determination has not been made, fair values assessed on the basis of prices prevailing at the year end, reduced revenue by US$0.6m to US$1.8m (2018: by US$0.3 to US$4.2m). In periods of rising prices this adjustment would be expected to be positive and in the long run such pluses and minuses can be expected to even out. The final price determinations made after the end of 2019 in respect of sales made before the end of the year were not significantly different from the fair value assessed at the end of the year.

US$000	2019	2018
Revenue from shipments recorded at the price at time of dispatch	2,391	4,543
Adjustments to revenue after final price determination and fair value changes	(550)	(323)
Revenue	1,841	4,220

Cost of sales increased to US$3.2m from US$1.7m in 2019 primarily reflecting the increased volumes (+22% impact) and increases in the price of the vanadium concentrate purchased at the high prices prevailing in 2018 and early 2019 (+61% impact). The largest part of 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 prices prevailing at the time of purchase. Since such materials are purchased up to several months before processing, and sales price determination is made several months after shipment, the prices used as a basis for the calculation of raw material prices were significantly higher than the price used as a basis for product sales. This means that the operating margin was squeezed as prices fell in 2019. Again, during times of rising prices this effect would be reversed and is likely to even out in the long term as prices move up and down.

Administrative expenses of US$1.8m (2018: US$1.3m) principally comprised employee costs, listing costs, audit, listing costs and professional services. The professional costs directly relating to the listing on the London Stock Exchange amounted to US$0.304m (2018: US$0.164m).

Net finance cost was US$0.183m (2018: net finance costs US$0.036m) as a result of the tenge devaluation and sales in USD and RUR.

The Group made a loss before tax of US$3.34m (2018: net profit before tax of US$2.96m).

Net cash outflows from operating activities totalled US$2.5m (2018: US$1.3m inflow) principally reflecting the effects of decreases in vanadium prices as described above and listing costs.

Net cash outflows from investing activities included US$2.3m (2018:US$0.9m) of capital expenditure associated with expanding the processing operation.

Net cash inflows from financing activities comprised subscriptions for shares amounting to US$6.9m (before costs), yielding US$6.6m net of costs, arising from the placing at the time of the listing of the Companies shares on the London Stock Exchange on 28 March 2019 .

The Group had cash of US$0.648m at 31 December 2019 (2018: US$0.892m).

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, are relatively small in comparison with the main objective of the Group to develop the Balasausqandiq mine and processing facility. Moreover, the current operations are themselves undergoing a significant expansion 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.

Furthermore, the existing processing business of the company is complex and the business model has been developed to allow maximum flexibility in the type of raw-materials treated so that market variations in raw material prices can be moderated by the ability to select raw materials which may be more profitable to treat notwithstanding they be of lower grade and result in a lower level of production. Nevertheless, the directors consider that the main indicator of performance, although subject to interpretation as described above, is the level of production. This has been dealt with in the section “Production” above.

Environmental matters are of paramount importance to the Group. Up to this date most of the residues from the main raw materials treated have been used for the construction of evaporation ponds and the Company has started to sell the waste products from the high grade raw-materials as a low-grade nickel concentrate. There are opportunities for the sale of future residues from the low-grade iron-concentrates as well, so that the aim of the Company is to have no significant residues remaining on site from the current operation. No significant mining operations have yet been carried out but plans are being developed at an early stage to ensure the highest standards for site rehabilitation at the sites of future mining.

Balance sheet review

Total non-current assets increased to US$5.089m from US$2.773m principally due to the rise in capital expenditure, together with an increase in VAT receivable and prepayments for equipment. The increase in prepayments for equipment is largely related to prepayments made for construction of the new Power Line (US$1m).

The increase in VAT receivables is related to an increase in the import of raw materials resulting from the increase of production, and to the increase in capital investments in equipment.

Current assets increased from US$1.95m to US$2.47m, principally reflecting additional inventories due to higher levels of raw materials and finished goods on site at the year end. The increase in inventories is related to the increase in production as well as building raw materials at the end of autumn in order to have sufficient stock during winter months when transportation is more complicated.

Current liabilities decreased to US$0.7m from US$1.2m primarily as the prior year included a US$0.3m payables at fair value through profit or loss ("FVTPL") as a result of the sharp reduction in prices between shipments in Q4 2018 and 31 December 2018 which reduced to US$59,000 for the current period.

Development plan – existing operation

Throughout 2019 the Company has been working towards a major expansion of the existing processing operation to around 1,500 tonnes per year of production of vanadium pentoxide. Although significant steps have been taken towards this figure, progress on the remaining capacity has been delayed, principally by the Covid-19 situation. Whilst all the essential technologies in hydrometallurgical and pyrometallurgical lines are now already in operation, expansion to this level will require finalisation of the connection to the high voltage power line, installation of the dissociation oven to convert AMV into vanadium pentoxide and installation of the electrometallurgical line for the production of ferro-vanadium.

Balasausqandiq

In parallel with existing operations discussed above, and using the resulting cash flows, the Company plans to continue development of the Balasausqandiq vanadium deposit. The western bankable feasibility study has been initiated with leading consulting companies in the industry. The current study is for Phase 1 of the development plan, including construction of a process facility to treat one million tonnes per year of ore, producing some 5,600 tonnes per year of vanadium pentoxide, plus by-products which are likely to amount to around a third of revenue. A subsequent expansion is planned which will increase vanadium pentoxide production to 22,400 tonnes per year, plus by-products, but this will not be included in the currently ongoing feasibility study.

Although the Balasausqandiq mine and processing plant will be separate and independent from the existing operation, they will operate from the same site and much of the infrastructure work which forms part of the current development plan will benefit both operations.

Corporate

On 28 March 2019 the Company was admitted to listing on the London Stock Exchange, raising £5.2m gross, equivalent to US$6.9m, or US$6.6m net of issue costs. The Company listed on the new Astana International Stock Exchange (AIX) on 6 January 2020 and consequently delisted from the Kazakhstan stock exchange (KASE) on 21 February 2020.

On 6 April 2020 the Company issued 500,000 shares to a provider of financial services as payment for their services. On 14 May 2020 the Company issued 3,846,154 shares to raise £0.25m, and on 5 June 2020 the Company issued unsecured corporate bonds with an interest rate of 7.5% to raise a further US$0.3m.

Description of principal risks, uncertainties and how they are managed

(a) Current processing operations:

Current processing operations make up a small part of the Group's expected future value but provide useful cash flows in the near term and allow the group to gain valuable experience of the vanadium industry. The principal risk of this operation is the price of its product, vanadium. The price of vanadium pentoxide is volatile and has risen from historic lows at the beginning of 2016 to a near-record high of nearly US$30/lb near the end of 2018. Currently, the price of vanadium pentoxide is at around US$6/lb which is a little less than the ten-year average to date. Most forecasters anticipate that vanadium will be in deficit in the short to medium term, resulting in some recovery in current prices, and will return to the long-run marginal cost of production in the longer term which may be substantially higher. The Company acquires raw-materials at a cost that is related to the price of vanadium so there is a natural hedge but there is a risk of changes in vanadium prices between the time of acquisition of the raw materials and sale of the product which cannot be entirely avoided.

The processing operation is also dependent on the continuing availability of raw materials which are subject to competition from other processors. The Company is mitigating this risk by positioning itself to treat a wide variety of potential raw-materials and maintaining low treatment costs.

The level of profitability of the current processing operation is also dependent on production levels sufficient to generate profits to cover fixed overheads. The level of production could be impacted by unanticipated production difficulties, power outages and raw-material delivery limitations. The Company aims to keep a stockpile of raw-materials and has installed a larger capacity generator to maintain production during outages.

The Company is currently carrying out an expansion project which will lower the average cost of production and as part of this project, will be connecting to a larger capacity and more reliable power supply as described above. Although a substantial part of this expansion has already been completed, the plans include completion of the link to the adjacent high voltage powerline and the installation of an electric arc furnace. The full benefits of the expansion depend upon the raising of sufficient finance and the successful completion of these projects.

(b) Covid-19:

There remains a risk that the Covid-19 crisis worsens in Kazakhstan. This could cause further disruption to supply-lines, staffing and subcontractors as has already occurred, but it is also possible that a case might arise on site requiring a temporary shutdown of operations. In addition, Covid-19 may impact the availability of finance or the terms which are available. Whilst it is not possible to guard against this, the Company continues to take all recommended precautions and will aim to maintain higher than normal stores of essential supplies on site. In terms of funding, cash flows are monitored on a continuous basis to enable the Company to take proactive measures to safeguard liquidity.

(c) Risks associated with the developing nature of the Kazakh economy:

According to the World Bank Kazakhstan has transitioned from lower-middle-income to upper-middle-income status in less than two decades. Kazakhstan's regulatory environment has similarly developed and the Company believes that the period of rapid change and high risk is coming to an end. Nevertheless, the economic and social regulatory environment continues to develop and there remain some areas where regulatory risk is greater than in developed economies.

(d) Balasausqandiq project:

The Balasausqandiq project is a much larger contributor to the Group's value and is primarily dependent on long term vanadium prices. The Company's long-term assumption is US$7.50/lb of vanadium pentoxide, but the forecast low cost of production means that the project would remain profitable at lower price levels.

The project is also dependent on raising finance to meet capital costs anticipated to amount to circa US$100m for the first phase. Raising this money will be dependent on the successful outcome of the western bankable feasibility study which is ongoing. The favourable financial and other characteristics of the project determined by studies so far completed give the directors confidence that the outcome of the study will be successful. Initial discussions with the providers of finance, including with the Development Bank of Kazakhstan for which our project has passed through initial screening, have been encouraging.

Signed on behalf of the Board of Directors on

27 June 2020

DIRECTORS' REPORT

The Directors present their annual report and the financial statements of the Group for the year ended 31 December 2019.

General

The Company was incorporated as a limited liability company in the British Virgin Islands on 18 April 2000 and re-domiciled to Guernsey as a Guernsey non-cellular limited company with company registration number 63449 on 12 April 2017. The Company's principal place of business is Guernsey. The Company is subject to the City Code. The Existing Ordinary Shares of Ferro-Alloy Resources Limited have been listed in the Standard segment of the London Stock Exchange since 28 March 2019. On 6 January 2019 its shares were listed on the Astana International Stock Exchange ("AIX") having previously been listed on the Kazakhstan Stock Exchange. On 21 February 2020 it delisted from the Kazakhstan Stock Exchange.

Principal Activity

The Company is the holding company of a mining and mineral processing business with operations located at the Balasausqandiq vanadium/polymetallic mineral deposit in Kyzylordinskaya Oblast in Southern Kazakhstan.

Development plan

The main objective of the Company is to bring into production the Balasausqandiq mine and to build a processing plant to treat one million tonnes of ore per year (Phase 1) and later increase to a total of four million tonnes per year (Phase 2). Phase 1 is expected to take two years to design and build, and Phase 2 will be started as soon as commissioning of Phase 1 has been successfully concluded. Production is expected to be 5,600 tonnes per year and 22,400 tonnes per year of vanadium pentoxide from Phases 1 and 2. Further income is expected from by-products which will account for around one third of revenue. Owing to the unique type of ore and the level of infrastructure already existing, the capital and operating costs of this operation are expected to be a fraction of those of other vanadium projects and producers. The net present value of Phases 1 and 2 combined is estimated to be around US$2 billion using a long-term assumption of USD7.5/lb for vanadium pentoxide.

As part of the feasibility study into the Balasausqandiq project a pilot plant with a capacity of 15,000 tonnes per year of ore was built and operated successfully. After completing the test programme it was converted to production from bought-in concentrates which, being of higher grade than mined ore, enabled it to produce at a commercial level. It is now being expanded to make it a fully commercial plant, potentially making a significant contribution to the capital costs of Phase 1 of the Balasausqandiq project whilst being a separate operation in its own right. The existing operation and Phase 1 together are expected to provide sufficient finance for Phase 2.

Business Review

A review of the business during the year is included in the Report on Operations. The Group's business and operations and the results thereof are reflected in the attached financial statements. In addition, refer to note 25 of the financial statements for financial instrument risks.

Business Risks

A review of the key risks to the Company is set out in the Report on Operations.

Advisers

The Company's advisers are set out below:

Financial advisor and broker UK	Shore Capital Stockbrokers Limited 57 St James Street, Cassini House London SW1A 1LD www.shorecap.co.uk
Kazakhstan	Tengri Partners Investment Banking (Kazakhstan) JSC 17 Al-Farabi Avenue Almaty 050059 Kazakhstan www.tengricap.com
Financial adviser	VSA Capital Group Limited 15 Eldon St. London EC2M 7LD www.vsacapital.com
Lawyers – Guernsey	Collas Crill LLP Glategny Court, Glategny Esplanade St Peter Port, Guernsey GY1 4EW
Auditors	BDO LLP 55 Baker Street London W1U 7EU

Bankers	Barclays Bank PLC Le Marchant House St Peter Port Guernsey GY1 3BE
Registrars	Computershare Investor Services (Guernsey) Limited The Pavilions, Bridgwater Road, Bristol BS99 6ZY United Kingdom www.computershare.com

Financial Results

During the 12 months ended 31 December 2019, the Company reported a loss of US$3.3m (2018: profit of US$2.96m).

No dividends have been declared in respect of the years ending 2019 or 2018.

Directors

The Board of the company comprises two executive directors and two non-executive directors whose biographical details are as follows:

Nicholas Bridgen, Chief Executive

Nick started his career in 1975 as a Chartered Accountant at Peat Marwick Mitchell & Co (now KPMG). In 1979, he moved to the Rio Tinto Group, becoming senior group accountant in 1981. He then moved to the Business Evaluation Department for the Group in 1985 and was Group Planning Manager for the RTZ Pillar Group which held the engineering, building products and chemical companies. Nick spent 14 years with Rio Tinto. In the mid-1990s, he was finance director at Bakyrchik Gold Plc. and in 1998, he founded Hambledon Mining Plc which acquired the Sekisovskoye gold project, listing the company on AIM and taking the project from exploration, through construction and into a producing mine.

Since 2006, Nick has been a director and more recently, CEO, of Ferro-Alloy Resources Limited. He holds a Bachelor's degree with honours from Exeter University, is a Chartered Accountant and has also studied corporate finance at London Business School. He is a fluent Russian speaker.

Andrey Kuznetsov, Director of Operations

Andrey started his career in 1981 as an industrial engineer at Kirov Engineering Plant in Almaty. After three years he became Chief of the Scientific Department in Central Committee of Youth (Comsomol). In 1987, Andrey became general director of the Almaty NTTM "Kontakt" centre. In 1995-1996, he was the CEO of the Kazakhstan subsidiary of Alfa-Bank. Andrey has been the general director of TOO Firma Balausa since 2006. He holds a Specialist's degree in electrical engineering from Bauman Moscow State Technical University and a PhD in informal mathematical logic. He has also studied management at Coventry University.

Chris Thomas, Non-executive chairman, chairman of the remuneration committee and member of the audit committee

Chris Thomas has nearly 35 years' experience in the communications industry. He has held various high-level management positions including CEO of Proximity London from 2003 to 2006 - one of the largest direct and digital agencies in London. In 2006, Chris was appointed Chairman & CEO of BBDO and Proximity in Asia, subsequently adding the Middle East and Africa to his responsibilities. He worked with major multinational companies across the growth markets of SE Asia, China, India and Africa. In May 2015, Chris moved to New York to take up the role of CEO of BBDO in the Americas, with responsibility for 21 agencies in the U.S., Canada and Latin America. In February 2019 he stepped down from his Americas role and remains Chairman of I&S BBDO in Japan. He also served as a non-executive director on the board of Hambledon Mining from 2004 to 2011.

James Turian, Non-executive Director, chairman of the audit committee and member of the audit committee

James started his career in 1986 and has a background in accounting, trust and management. James has previously been involved with several mining companies in Perth, Australia, including assisting Cooper Energy in their restructuring in the early 2000s. From 2000 to 2011 James owned and operated a trust company in Guernsey which he sold to concentrate on accountancy and currently is a director of "Accounts For You Limited", a Guernsey accountancy firm. He holds several other directorships. James is a Chartered Fellow of the Securities Institute IAQ and is a Fellow of the Institute of Directors.

Directors' Remuneration

	Salary/ fees (US$'000)		**Benefits (US$'000)**		**Pension (US$'000)**		**Bonus/other (US$'000)**		**Total (US$'000)**	
	2018	**2019**	2018	**2019**	2018	**2019**	2018	**2019**	2018	**2019**
Non-Executive	30	30	nil	nil	nil	nil	nil	nil	30	**30**
Non-Executive director	30	30	nil	nil	nil	nil	nil	nil	30	**30**
Chief executive director	220	235	30	nil	nil	nil	nil	nil	250	**235**
Operations director	140	155	nil	nil	nil	nil	nil	nil	140	**155**
Total	420	**450**	30	**nil**	nil	**nil**	nil	**nil**	450	**450**

Principal shareholders

A list of shareholders who beneficially hold more than 5% of the Company's shares at 26 June 2020 is as follows:

Name of shareholder	**Number of ordinary shares**	**Percentage of voting rights**
Andrey Kuznetsov	70,184,000	22.1
Nicholas Bridgen	64,738,800	20.4
Citadel Equity Fund Limited	41,913,600	13.2

Interests of directors

The interests (all of which are beneficial and include related parties) of the Directors in the Company's issued share capital at 31 December 2019 and at 26 June 2020 are as follows:

Name of director	Position	31 Dec 2019 Number of Ordinary Shares	31 Dec 2019 % of Share Capital	26 June 2020 Number of Ordinary Shares	26 June 2020 % of Share Capital
Nicholas Bridgen	Chief executive	64,738,800	20.7	64,738,800	20.4
Andrey Kuznetsov	Operations director	70,184,000	22.4	70,184,000	22.1
Christopher Thomas	Non-executive Chairman	162,687*	0.1	162,687*	0.1
James Turian	Non-executive director	62,687**	0.0	62,687**	0.0

* Assiduous Group Ltd holds 4,193,800 Ordinary Shares (1.32%). Assiduous Group Ltd is the investment vehicle for a family trust created for the benefit of the children of Christopher Thomas and his wife, Fleur Thomas.

**James Turian's shareholding is held in his wholly owned company Panda Holdings Limited.

Website Publication

The Directors are responsible for ensuring that the annual report and the financial statements are made available on a website. Financial statements are published on the Company's website (www.ferro-alloy.com) in accordance with applicable legislation in Guernsey governing the preparation and dissemination of financial statements, which may vary from legislation in other jurisdictions. The maintenance and integrity of the Company's website is the responsibility of the Directors. The Directors' responsibility also extends to the ongoing integrity of the financial statements contained therein.

Going Concern

The Directors have reviewed the Group's cash flow forecasts for 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 risks and uncertainties associated with the COVID-19 pandemic and considered reverse stress test scenarios to assess the potential impact on liquidity in line with recent guidance.

The Company completed a share placing in May 2020 to raise £250,000 before expenses and most recently raised US$300,000 before expenses through the issue of unsecured corporate bonds which mature in 11 June 2023, with the right to receive early repayment after a minimum period of 12 months and bear a 7.5% coupon. In addition, the Group's forecasts indicate that at current vanadium pentoxide prices and the planned production levels following the relaxation of COVID-19 restrictions in Kazakhstan that the Group will generate sufficient cash flows to meet operational costs and maintain liquidity. Whilst the Group plans to continue its expansion of the existing processing facilities the required capital expenditure, which is discretionary or can be deferred without significant penalty, will require additional funding. Accordingly, the Directors are progressing proposals to secure such funding.

Notwithstanding the current cash position and forecast operational cash flow in the base case and the relatively low number of COVID-19 cases and fatalities to date in Kazakhstan compared with other countries, the potential impact on the Group of the pandemic remains inherently uncertain. There is potential for further government restrictions if the pandemic escalates in Kazakhstan, which may again impact the Group's operations including supply chain disruption, mine site workforce rotations and travel to the mine site in particular, together with the potential for volatility in commodity prices. Stress test scenarios indicate that in the event of a sustained further period of restrictions impacting production levels or significant reduction in vanadium pentoxide prices additional funding would be required.

After review of these forecasts the Directors have a reasonable expectation that the Group has adequate resources to continue in operational existence for the foreseeable future based on the recent funds raised and the operational cash flow generation of the processing operations, whilst in the event of further impacts from COVID-19 the Directors anticipate being able to raise funds if required given the value contained in the Group's assets and the expansion plans. Accordingly, the Directors continue to adopt the going concern basis in preparing the consolidated financial statements. However, at the date of approval of these financial statements, the potential future impact of COVID-19 and the resulting requirement for additional funding should such adverse scenarios materialise indicate the existence of a material uncertainty which may cast significant doubt about the Group's ability to continue as a going concern and therefore it may be unable to realise its assets and discharge its liabilities in the normal course of business. The financial statements do not include the adjustments that would result if the Group was unable to continue as a going concern.

Auditor

BDO LLP was appointed at auditors to the Company in the period. BDO LLP has expressed its willingness to continue in office as auditors and a resolution to re-appoint BDO LLP will be proposed at the forthcoming annual general meeting.

Signed on behalf of the Board of Directors on

27 June 2020

Responsibility statements

Directors' Responsibility Statement

The Companies (Guernsey) Law, 2008 requires the Directors to prepare financial statements for each financial period which give a true and fair view of the state of affairs of the Group for that period and of the profit or loss of the Group for that period. Under that law they have elected to prepare the financial statements in accordance with International Financial Reporting Standards as adopted by the EU and applicable law. In preparing those financial statements the Directors are required to:

- Select suitable accounting policies and then apply them consistently;
- Make judgments and estimates that are reasonable and prudent;
- State whether applicable accounting standards have been followed, subject to any material departures disclosed and explained in the financial statements; and
- Prepare the financial statements on the going concern basis unless it is inappropriate to presume that the Group will continue in business.

The Directors are responsible for keeping proper accounting records which disclose with reasonable accuracy at any time the financial position of the Group and to enable them to ensure that the financial statements have been properly prepared in accordance with the Companies (Guernsey) Law, 2008. They are also responsible for safeguarding the assets of the Group and hence for taking reasonable steps for the prevention and detection of fraud and other irregularities.

The Directors confirm that they have complied with the above requirements in preparing the financial statements.

So far as each of the Directors are aware, there is no relevant audit information of which the Group's auditor is unaware; having taken all the steps the Directors ought to have taken to make themselves aware of any relevant audit information and to establish that the Group's auditor is aware of that information.

To the best of the Directors' knowledge:

a) the financial statements, prepared in accordance with International Financial Reporting Standards as adopted by the EU and applicable law, give a true and fair view of the assets, liabilities, financial position and profit or loss of Ferro-Alloy Resources Limited and the undertakings included in the consolidation as a whole; and
b) the management report includes a fair review of the development and performance of the business and the position of Ferro-Alloy Resources Limited and the undertakings included in the consolidation taken as a whole, together with a description of the principal risks and uncertainties that they face.

Governance statement

General

As a consequence of the Ordinary Shares being admitted to the standard segment of the Official List, the requirements of the UK Corporate Governance Code, published by the Financial Reporting Council (the "Corporate Governance Code"), do not apply to the Company. The Guernsey Corporate Governance Code does not apply to the Company since the Company is not regulated by the Guernsey Financial Services Commission. However, the Board recognises the importance of good corporate governance and has implemented corporate governance practices having consideration to the recommendations and principles of the UK Corporate Governance Code and DTR 7.2 in accordance with the listing rules as far as is appropriate whilst considering the size and nature of the business.

The Board of Directors of the company is responsible for the overall corporate governance of the consolidated Group, guiding and monitoring the business and affairs of the company on behalf of the shareholders by whom they are elected and to whom they are accountable.

Composition of the Board

The number of Directors as specified in the Articles of Incorporation of the Company is a minimum of one and up to a maximum of seven. Having regard to the Company's stage of development, the directors believe that the size of the current board comprising four directors, two of whom are executive and two are non-executive, is appropriate. The directors intend that there will always be at least as many non-executive directors as there are executive directors.

Board Committees

The Company has created an audit committee that is responsible for considering all financial reporting matters and ensuring that they are properly reported and monitored. It is also responsible for the review and assessment of the independence of the external auditors and approval of any non-audit services, review of the external audit strategy and findings, assessment of whether an internal audit function is necessary considering the activities and size of the business and oversight of significant financial reporting matters. The committee is chaired by Mr James Turian and Mr Chris Thomas is a member. Mr Turian has a background in accounting, trust and management and is a director of a firm of accountants in Guernsey which the board considers to be recent and relevant experience to carry out his responsibility as chairman.

The Company has also created a remuneration committee to consider all matters related to salary and benefits of senior staff and executive directors. The remuneration of non-executive directors is a matter for the board as a whole. No director will take part in discussions concerning his own remuneration package. Mr Chris Thomas has been appointed chairman of the committee and Mr James Turian is a member.

The directors are of the opinion that due to the nature and size of the Company and its current board of directors, the functions often carried out by a nomination committee can be more successfully conducted by the full board of directors so no such committee has been created.

Code of conduct

The goal of establishing the Company as a significant mining and processing Company is underpinned by its core values of honesty, integrity, common sense and respect for people.

The Company desires to remain a good corporate citizen in all the jurisdictions within which it operates, and to appropriately balance, protect and preserve all stakeholders' interests. In particular, the Company gives paramount concern to the safety of its employees and the maintenance of high environmental standards.

Shareholder communication

The Board aims to ensure that shareholders and investors have equal access to the Company's information.

The company aims to promote effective communication with shareholders and encourage effective participation at general meetings through a policy of open disclosure to shareholders, regulatory authorities and the broader community of all material information with respect to the company's affairs.

Internal control and risk management systems

The Company's accounting and finance team is small and subject to close control by the executive directors. For this reason, the Audit Committee and the Board are of the opinion that it is not appropriate for there to be a separate internal control department or internal audit function but has implemented various procedures and internal controls to provide assurance to directors that accounting and financial risks are adequately controlled. These include:

- The preparation and regular updating of cash flow forecasts, changes to which are closely monitored by executive directors who discuss necessary changes on almost a daily basis
- There is a Kazakhstan group finance manager, employed in a Group services company, to oversee and control the quality of financial reporting of operating companies in Kazakhstan and perform group accounting and financial roles
- Significant contracts require approval by members of the Board
- All Group payments must be authorised by a director and Ferro-Alloy Resources Limited has opened new banking facilities which require two directors' signatures on all payments over US$5,000
- The board of directors has formed an audit committee.

INDEPENDENT AUDITOR'S REPORT TO MEMBERS OF FERRO-ALLOY RESOURCES LIMITED

Opinion

We have audited the financial statements of Ferro-Alloy Resources Limited (the "Company") and its subsidiaries ("the Group") for the year ended 31 December 2019 which comprise the consolidated statement of profit or loss and other comprehensive income, the consolidated statement of financial position, the consolidated statement of changes in equity and the consolidated statement of cash flows and notes to the financial statements, including a summary of significant accounting policies. The financial reporting framework that has been applied in their preparation is applicable law and International Financial Reporting Standards (IFRSs) as adopted by the European Union.

In our opinion, the financial statements:

- give a true and fair view of the state of the Group's affairs as at 31 December 2019 and of its loss for the year then ended;
- have been properly prepared in accordance with IFRSs as adopted by the European Union; and
- have been properly prepared in accordance with the requirements of the Companies (Guernsey) Law, 2008.

Basis for opinion

We conducted our audit in accordance with International Standards on Auditing (UK) (ISAs (UK)) and applicable law. Our responsibilities under those standards are further described in the Auditor's responsibilities for the audit of the financial statements section of our report. We are independent of the Group in accordance with the ethical requirements that are relevant to our audit of the financial statements in the UK, including the FRC's Ethical Standard as applied to listed entities and we have fulfilled our other ethical responsibilities in accordance with these requirements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Material uncertainty in relation to going concern

We draw attention to note 1(d) in the financial statements which sets out the Directors' considerations of the potential impact of the COVID-19 pandemic, including on its operations and volatility in commodity prices, which may require the Group to obtain additional funding. As stated in note 1(d), these circumstances along with other matters set out in note 1(d) indicate that a material uncertainty exists that may cast significant doubt on the Group's ability to continue as a going concern. Our opinion is not modified in respect of this matter.

We have highlighted going concern as a key audit matter as a result of the uncertainty created by the COVID-19 pandemic and resulting potential implications for our audit strategy. Our response to this key audit matter is shown below:

- We discussed the potential impact of Covid-19 with management and the Audit Committee including their assessment of risks and uncertainties associated with areas such as production disruption and commodity price volatility. We formed our own assessment of risks and uncertainties based on our understanding of the business and mining sector in Kazakhstan.
- We considered reverse stress test scenarios to assess the potential impact on liquidity of reasonably possible scenarios including production disruption and adverse changes in commodity prices. We evaluated management's judgment that adequate funding would be available if required, inspecting mandate letters for funding for the project and considering the history of fund raising.

- We obtained management's base case cash flow forecasts and critically assessed the key inputs including commodity prices, production levels, operating costs and planned capital expenditure. In doing so we compared the commodity price forecasts to market outlook reports, considered the appropriateness of the production mix and growth plans against historical performance and the effect of capital expansion works completed to date and planned, evaluated cost assumptions against historic trends and compared the capital expenditure to feasibility studies.
- We agreed funds raised subsequent to year end to market announcements and bank.
- We reviewed the adequacy and completeness of the disclosure included within the financial statements in respect of going concern.

Key audit matters

In addition to the matter described in the material uncertainty related to going concern section, key audit matters are those matters that, in our professional judgment, were of most significance in our audit of the financial statements of the current period and include the most significant assessed risks of material misstatement (whether or not due to fraud) that we identified, including those which had the greatest effect on: the overall audit strategy, the allocation of resources in the audit; and directing the efforts of the engagement team. These matters were addressed in the context of our audit of the financial statements as a whole, and in forming our opinion thereon, and we do not provide a separate opinion on these matters.

Key Audit Matter	How the matter was addressed in our audit
Assessment of impairment of Property, Plant & Equipment (PP&E). At 31 December 2019, management have undertaken an impairment test on the processing operation assets which form the Group's PP&E. The Board concluded that the recoverable amount on a fair value less cost to sell ("FVLCS") basis exceeded the carrying amount of the assets. Accordingly no impairment has been recorded as detailed in note 2 and 12. This assessment required the Board to form estimates in determining inputs to forecast net present value calculations underlying the assessment of FVLCS, including commodity prices; future production; operating costs; capital expenditure and discount rates. Given the estimates and judgments required this area was considered to represent a significant audit risk and key audit matter.	We obtained management's NPV forecasts for the processing operation and evaluated the appropriateness of the use of the fair value less cost to sell methodology, which includes future capital expenditures for expansion and development when such expenditure would reasonably be incurred by a market participant. We compared commodity price forecasts to FY 2019/ 2020 actual data and third party market outlook reports. We evaluated the forecast growth in production and change to production mix against historical performance and the effect of capital expansion works included in the forecast. We compared the operating costs to historical actuals and made inquiries of management to assess the basis for changes over time, considering the consistency of the assumptions with the capital project plan. We compared the forecast capital expenditure to the Competent Person's report which included an estimate of the capital cost for the expansion of the processing operations. We recalculated the discount rate and compared the rate used in the impairment test to equity analyst reports. We performed sensitivity analysis on key inputs such as pricing, production, capital costs and discount rates to confirm that headroom remained under reasonably possible sensitivities.

	We reviewed the Competent Person's Report and market analyst reports to compare the implied net present values included in those reports against the carrying value of the asset. We reviewed the disclosures in the financial statements against the requirements of the relevant accounting standards.
Key observations We found the Board's conclusion that no impairment is required to be appropriate. We found the disclosures in the notes to be sufficient and in line with accounting standards.	

Key Audit Matter	**How the matter was addressed in our audit**
Revenue recognition The Group generated revenues of $1.84m as detailed in note 4 based on the group's revenue recognition policy as detailed in note 3(l). In particular, in applying IFRS 15 to the Group's contracts consideration was required regarding: • The identification of the performance obligations within the contracts and the point at which performance obligations are satisfied and revenue is recorded (cut off); • The accounting for variable consideration associated with quality / quantity estimates required for sales prior to year end based on test data which are subject to subsequent final quality / quantity determination post year end; and • The accounting treatment for provisional pricing that applies under the contracts, particularly given the absence of forward market prices for AMV and the subsequent estimates required in determining the fair value of contract receivables and payables. Given the above factors we considered this area to represent a significant audit risk and key audit matter.	We assessed the revenue recognition policy for the key AMV revenue stream against the 5-step model of IFRS 15 to determine whether the policy remains compliant with accounting standards. We obtained and reviewed sales agreements and terms with material customers to assess the appropriateness and application of the revenue recognition policy with specific consideration of the relevant performance obligations and the point at which they are satisfied per the agreements. We evaluated the accounting treatment of quality / quantity estimates and compared the estimates to actual outcomes both in the year for previously completed sales and post year end for the open sales. We evaluated the appropriateness of management's accounting treatment of the provisional pricing clauses for open sales against the relevant accounting standards, which gave rise to payables held at fair value. We obtained supporting shipping, delivery and other relevant sales documents to confirm the sales which had been recorded but remained subject to final price determination. In respect of the fair value of payables we evaluated the valuation methodology and recalculated the fair values using market data. We agreed a sample of revenue in the year to supporting documentary evidence. We performed cut off procedures by obtaining evidence such as shipping documents to confirm that revenue was recorded in the correct period. We reviewed disclosures and accounting policies for compliance with IFRS 15.

Key observations

We found the revenue recognition policies to be compliant with IFRS and the presentation in the financial statements to be acceptable. We found the estimates used in determining the fair value of payables to be acceptable.

Our application of materiality

We apply the concept of materiality both in planning and performing our audit, and in evaluating the effect of misstatements. We consider materiality to be the magnitude by which misstatements, including omissions, could influence the economic decisions of reasonable users that are taken on the basis of the financial statements. Importantly, misstatements below these levels will not necessarily be evaluated as immaterial as we also take account of the nature of identified misstatements, and the particular circumstances of their occurrence, when evaluating their effect on the financial statements as a whole.

Group materiality	**$115,000**
Basis for determining materiality	1.5% of total assets

We have determined an asset based measure to be appropriate given the Group is focused on both its exploration and production assets and is in an investment phase following its IPO. We consider total assets to be the most significant determinant of financial performance used by users of the financial statements.

Whilst materiality for the financial statements as a whole was $115,000 (2018: $150,000, based on 5% of profit before tax), each of the two significant components of the group was audited to a lower materiality of $70,000 (2018: $67,000).

Performance materiality is used to determine the financial statement areas that are included within the scope of our audit and the extent of sample sizes during the audit. Performance materiality is applied at the individual account or balance level set at an amount to reduce to an appropriately low level the probability that the aggregate of uncorrected and undetected misstatements exceeds materiality for the financial statements as a whole. Performance materiality was set at 75% of materiality levels for each component.

We agreed with the Board that we would report to them all individual audit differences identified during the course of our audit in excess of $3,000 (2018: $3,000). We also agreed to report differences below that threshold that, in our view, warranted reporting on qualitative grounds.

An overview of the scope of our audit

In setting our Group audit strategy we obtained an understanding of the Group, its environment and assessed the risks of material misstatement in the financial statements of the Group as a whole.

We identified two significant components, being the principal operating subsidiary Firma Balausa LLC and the parent company Ferro-Alloy Resources Limited. Our group audit strategy focused on these and both of the significant components were subject to a full scope audit. The Group consolidation was also subject to a full scope audit by the Group audit team. These components represent the principal business units and account for 100% of the Group's revenue, 100% of the Group's profit before tax and 100% of the Group's total assets.

The audits of both of the significant components were principally performed in Kazakhstan by a non-BDO network firm under our direction and supervision. As part of our audit strategy, as Group auditors:

- Detailed Group reporting instructions were sent to the component auditor, which included the significant areas to be covered by the audit (including areas that were considered to be key audit matters as detailed above), and set out the information required to be reported to the Group audit team.
- As a result of travel restrictions resulting from the COVID-19 pandemic, senior members of the group audit team were unable to visit Kazakhstan to meet with the component auditors as we have done historically. Accordingly, we performed a remote review of the component audit files in Kazakhstan using online software platforms and held regular calls with the component audit teams during the audit.
- We reviewed Group reporting submissions received from the component auditors and held calls and meetings with the component audit team during the completion phases of their audit to discuss significant findings from their audit.
- We held calls and meetings with members of Group and component management to discuss accounting and audit matters arising.
- The Group audit team was actively involved in the direction of the audits performed by the component auditor for Group reporting purposes, along with the consideration of findings and determination of conclusions drawn. We performed our own additional procedures in respect of certain of the significant risk areas that represented Key Audit Matters in addition to the procedures performed by the component auditor.

The remaining four components of the Group were considered non-significant and these components were principally subject to analytical review procedures.

Other information

The Directors are responsible for the other information. The other information comprises the information included in the annual report, other than the financial statements and our auditor's report thereon. Our opinion on the financial statements does not cover the other information and, except to the extent otherwise explicitly stated in our report, we do not express any form of assurance conclusion thereon.

In connection with our audit of the financial statements, our responsibility is to read the other information and, in doing so, consider whether the other information is materially inconsistent with the financial statements or our knowledge obtained in the audit or otherwise appears to be materially misstated. If we identify such material inconsistencies or apparent material misstatements, we are required to determine whether there is a material misstatement in the financial statements or a material misstatement of the other information. If, based on the work we have performed, we conclude that there is a material misstatement of this other information, we are required to report that fact.

We have nothing to report in this regard.

Matters on which we are required to report by exception

We have nothing to report in respect of the following matters where the Companies (Guernsey) Law, 2008 requires us to report to you if, in our opinion:

- proper accounting records have not been kept by the Company; or

- the financial statements are not in agreement with the accounting records; or
- we have failed to obtain all the information and explanations which, to the best of our knowledge and belief, are necessary for the purposes of our audit.

Responsibilities of Directors

As explained more fully in the Directors' responsibilities statement, the Directors are responsible for the preparation of the financial statements and for being satisfied that they give a true and fair view and for such internal control as the Directors determines is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, the Directors are responsible for assessing the Group's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless the Directors either intend to liquidate the Company or the Group or to cease operations, or have no realistic alternative but to do so.

Auditor's responsibilities for the audit of the financial statements

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with ISAs (UK) will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these financial statements.

A further description of our responsibilities for the audit of the financial statements is located on the Financial Reporting Council's website: https://www.frc.org.uk/auditorsresponsibilities. This description forms part of our auditor's report.

Use of our report

This report is made solely to the Company's members, as a body, in accordance with Section 262 of the Companies (Guernsey) Law, 2008. Our audit work has been undertaken so that we might state to the Company's members those matters we are required to state to them in an auditor's report and for no other purpose. To the fullest extent permitted by law, we do not accept or assume responsibility to anyone other than the Company and the Company's members as a body, for our audit work, for this report, or for the opinions we have formed.

BDO LLP

Ryan Ferguson
For and on behalf of BDO LLP, Chartered Accountants
London,
United Kingdom
27 June 2020

BDO LLP is a limited liability partnership registered in England and Wales (with registered number OC305127).

	Note	2019 $000	2018 $000
Revenue from customers (pricing at shipment)	4	2,391	4,543
Other revenue (adjustments to price after delivery and fair value changes)	4	(550)	(323)
Total revenue	4	1,841	4,220
Cost of sales	5	(3,178)	(1,688)
(Loss)/gross profit		**(1,337)**	**2,532**
Impairment reversal	6	-	1,775
Other income	6	70	10
Administrative expenses	7	(1,841)	(1,271)
Distribution expenses		(42)	(11)
Other expenses	8	(9)	(35)
(Loss)/profit from operating activities		**(3,159)**	**3,000**
Net finance income/(costs)	10	(183)	(36)
(Loss)/profit before income tax		**(3,342)**	**2,964**
Income tax	11	-	(1)
(Loss)/profit for the period		**(3,342)**	**2,963**
Other comprehensive income (loss)			
Items that may be reclassified subsequently to profit or loss			
Exchange differences arising on translation of foreign operations		31	(293)
Total comprehensive (loss) income for the period		**(3,311)**	**2,670**
(Loss)/earnings per share (basic and diluted), US$	20	(0.011)	0.009

These consolidated financial statements were approved by directors on 27 June 2020 and were signed on its behalf by:

James Turian

Director

The notes on pages 28 to 59 form part of these consolidated financial statements.

	Note	31 December 2019 $000	31 December 2018 $000
ASSETS			
Non-current assets			
Property, plant and equipment	12	3,206	2,203
Exploration and evaluation assets	13	59	59
Intangible assets	14	24	25
Long-term VAT receivable	17	652	237
Prepayments	18	1,148	249
Total non-current assets		**5,089**	**2,773**
Current assets			
Inventories	16	1,750	929
Trade and other receivables	17	35	38
Prepayments	18	38	91
Cash and cash equivalents	19	648	892
Total current assets		**2,471**	**1,950**
Total assets		**7,560**	**4,723**
EQUITY AND LIABILITIES			
Equity			
Share capital	20	33,965	27,330
Share premium	20	-	-
Additional paid-in capital		397	380
Foreign currency translation reserve		(2,934)	(2,965)
Accumulated losses		(24,617)	(21,275)
Total equity		**6,811**	**3,470**
Non-current liabilities			
Provisions	22	64	60
Total non-current liabilities		**64**	**60**
Current liabilities			
Trade and other payables	23	626	929
Payables at FVTPL	24	59	264
Total current liabilities		**685**	**1,193**
Total liabilities		**749**	**1,253**
Total equity and liabilities		**7,560**	**4,723**

	Share capital $000	**Share premium $000**	**Additional paid in capital $000**	**Foreign currency translation reserve $000**	**Accumulated losses $000**	**Total $000**
Balance at 1 January 2018	15	26,904	380	(2,672)	(24,238)	389
Profit for the year	-	-	-	-	2,963	2,963
Other comprehensive expense						
Exchange differences arising on translation of foreign operations	-	-	-	(293)	-	(293)
Total comprehensive income (loss) for the year	-	-	-	**(293)**	**2,963**	**2,670**
Transactions with owners, recorded directly in equity						
Shares issued (net of costs U$6,000)	245	166	-	-	-	411
Reorganisation of share capital to nil par value	27,070	(27,070)	-	-	-	-
Balance at 31 December 2018	**27,330**	-	**380**	**(2,965)**	**(21,275)**	**3,470**
Balance at 1 January 2019	27,330	-	380	(2,965)	(21,275)	3,470
Loss for the year	-	-	-	-	(3,342)	(3,342)
Other comprehensive income						
Exchange differences arising on translation of foreign operations	-	-	-	31	-	31
Total comprehensive income (loss) for the year	**-**	**-**	**-**	**31**	**(3,342)**	**(3,311)**
Transactions with owners, recorded directly in equity						
Shares issued, net of issue costs (note 20)	6,635	-	-	-	-	6,635
Warrants issued	-	-	17	-	-	17
Balance at 31 December 2019	**33,965**	-	**397**	**(2,934)**	**(24,617)**	**6,811**

	2019 $000	2018 $000
Cash flows from operating activities		
(Loss)/profit for the year	**(3,342)**	**2,963**
Adjustments for:		
Depreciation and amortisation	428	46
Reversal of impairment of property, plant and equipment and intangible assets	-	(1,613)
Reversal of impairment of exploration and evaluation assets	-	(162)
Loss on write-off of plant, property and equipment	(18)	-
Write-down of inventories to net realisable value and obsolescence	208	11
Expenses on credit loss provisions and impairment of prepayments	-	21
Issuance of call option	17	-
Income tax	-	1
Net finance costs / (income)	183	36
Cash from operating activities before changes in working capital	**(2,524)**	**1,303**
Change in inventories	(989)	(451)
Change in trade and other receivables	(442)	(241)
Change in prepayments	53	(87)
Change in trade and other payables	(369)	320
Change in payables at FVTPL	(205)	264
Net cash from operating activities	**(4,476)**	**1,108**
Cash flows from investing activities		
Acquisition of property, plant and equipment	(2,337)	(886)
Acquisition of intangible assets	(1)	(2)
Proceeds from disposal of property, plant and equipment	18	
Net cash used in investing activities	**(2,320)**	**(888)**
Cash flows from financing activities		
Proceeds from issue of share capital	6,939	417
Transaction costs on shares subscription	(304)	(6)
Net cash from financing activities	**6,635**	**411**
Net increase in cash and cash equivalents	**(161)**	**631**
Cash and cash equivalents at the beginning of year	892	267
Effect of movements in exchange rates on cash and cash equivalents	(83)	(6)
Cash and cash equivalents at the end of year	**648**	**892**

Note to the consolidated financial statements for the year ended 31 December 2019

1 Basis of preparation

Ferro-Alloy Resources Limited (the "Company") is incorporated in Guernsey and has its registered address at Noble House, Les Baissieres, St. Peter Port, Guernsey, GY1 2UE. The consolidated financial statements for the year ended 31 December 2019 comprise the Company and the following subsidiaries (together referred to as the "Group"):

Company	Location	Company's share in charter capital	Primary activities
Ferro-Alloy Products Limited	British Virgin Islands	100%	Carries out the treasury and finance activities for the Group
Energy Metals Limited	UK	100%	Manages processing activity and performs management service
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 EU ("IFRSs").

(b) Basis of measurement

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

(c) 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$.

(d) 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 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 risks and uncertainties associated with the COVID-19 pandemic and considered reverse stress test scenarios to assess the potential impact on liquidity in line with recent guidance.

The Company completed a share placing in May 2020 to raise £250,000 before expenses and most recently raised US$300,000 before expenses through the issue of unsecured corporate bonds which mature in June 2023, with the right to receive early repayment after a minimum period of 12 months, and bear a 7.5% coupon. In addition, the Group's forecasts indicate that at current vanadium pentoxide prices and the planned production levels following the relaxation of COVID-19 restrictions in Kazakhstan that the Group will generate sufficient cash flows to meet operational costs and maintain liquidity. Whilst the Group plans to continue its expansion of the existing processing facilities the required capital expenditure, which is discretionary or can be deferred without significant penalty, will require additional funding. Accordingly, the Directors are progressing proposals to secure such funding.

Notwithstanding that the current cash position and forecast operational cash flow in the base case and the relatively low number of COVID-19 cases and fatalities to date in Kazakhstan compared to other countries, the potential impact on the Group of the pandemic remains inherently uncertain. There is potential for further government restrictions if the pandemic escalates in Kazakhstan, which may again impact the Group's operations including supply chain disruption, mine site workforce rotations and travel to the mine site in particular, together with the potential for volatility in commodity prices. Stress test scenarios indicate that in the event of a sustained further period of restrictions impacting production levels or significant reduction in vanadium pentoxide prices additional funding would be required.

After review of these forecasts the Directors have a reasonable expectation that the Group has adequate resources to continue in operational existence for the foreseeable future based on the recent funds raised and the operational cash flow generation of the processing operations, whilst in the event of further impacts from COVID-19 the Directors anticipate being able to raise funds if required given the value contained in the Group's assets and the expansion plans. Accordingly, the Directors continue to adopt the going concern basis in preparing the consolidated financial statements. However, at the date of approval of these financial statements, the potential future impact of COVID-19 and the resulting requirement for additional funding should such adverse scenarios materialise indicate the existence of a material uncertainty which may cast significant doubt about the Group's ability to continue as a going concern and therefore it may be unable to realise its assets and discharge its liabilities in the normal course of business. The financial statements do not include the adjustments that would result if the Group was unable to continue as a going concern.

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

Given the decrease in vanadium pentoxide prices in the period, the Directors have tested the processing operations PP&E for impairment (note 12) at 31 December 2019. In doing, so, net present value cash flow forecasts were prepared using the fair value less cost to develop method which required estimates including vanadium pentoxide prices, production including the impact of ongoing and planned expansion to 1,500tpa and convert current AMV production to vanadium pentoxide and ferro-vanadium, together with costs and discount rate. Key estimates included:

- Production volumes of 12 tons per month of vanadium pentoxide from hydrometallurgical line, 48 tons per month of vanadium pentoxide from pyrometallurgical line and 68 tons per month of vanadium pentoxide from electrometallurgical line.
- Prices of US$5.35/lb in 2020, US$6.75/lb in 2021 and thereafter, reflecting management estimates having consideration of market commentary less a discount, and lower than the US$7.50/lb used by the Company as a long-term assumption for other planning purposes.
- Further capital development costs of US$5m.
- Discount rate of 10% post tax in real terms.

Fair value of trade receivables and payables classified at fair value less profit and loss (note 17, 24 and 25)

The consideration receivable in respect of certain AMV sales for which performance obligations have been satisfied at year end and for which the Group has received prepayment under the terms of the sale agreements, remain subject to pricing adjustments with reference to market prices in the month following arrival at the port of final destination. Under the Group's accounting policies, the fair value of the consideration is determined and the remaining receivable is adjusted to reflect fair value, or, if the final estimated consideration is lower than the amounts received prior to the year end, a payable at FVTPL is recorded. In the absence of forward market prices for the commodity, management estimated the forward price based on: a) spot market prices for vanadium pentoxide at 31 December 2019 less applicable deductions for AMV; b) foreign exchange rates; c) risk free rates and d) carry costs when material.

As at 31 December 2019 the Group recorded trade receivables at fair value of US$0.030m (2018: US$0,021m). As at 31 December 2019 the Group recognised a payable at FVTPL of US$0.059m (2018: US$0.264m).

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.

Reversal of impairment of exploration and evaluation assets in 2018 (note 6 and 13)

The Group historically impaired its exploration and evaluation assets as a result of a lack of clear plans for future exploration and development and the vanadium price environment at the time. As at 31 December 2018, management identified triggers for the potential reversal of this impairment given the advanced stage of the proposed listing on the London Stock Exchange, associated plans for development of its vanadium deposit, the results of an independent Competent Person's Report which estimates ore resources of 24m tonnes, a net present value of US$2 billion for the project, and the improved pricing environment. This assessment required judgment. The recoverable value of the project is considered to exceed the carrying value post impairment reversal based on the Competent Person's Report. In determining the fair value less cost to develop of the vanadium deposit, significant estimates include resources and future production, vanadium prices of US$7.50/lb long term, operating costs, capital development and discount rates. Given the implied net present value there are no reasonably possible changes in these estimates that would result in the recoverable amount being less than the carrying value. Accordingly, a reversal of impairment was recorded as detailed in note 6.

Reversal of impairment of PP&E in 2018 (note 6 and 12)

The Group historically impaired PP&E associated with its processing operations given uncertainty regarding the future plans for the plant and the vanadium pricing environment at the time.

As at 31 December 2018, management identified triggers for potential reversal of impairment given the advanced stage of the proposed listing on the London Stock Exchange, associated expansion of the stand-alone processing operation, the results of an independent Competent Person's Report which estimated a net present value on a fair value less cost to develop significantly in excess of historical cost for the separate processing operation together with the improved pricing environment. This assessment required judgment. The recoverable value of the project was considered to exceed the carrying value post impairment reversal based on the Competent Person's Report. In determining the fair value less cost to develop of the processing operation key estimates at 31 December 2018 included:

- Production volumes of 12 tonnes per month of vanadium pentoxide (in AMV) at the beginning of 2019 rising to 125 tonnes per month by mid-2020.
- Prices of US$13/lb in 2019, US$10/lb in 2020 and US$7.50/lb thereafter, reflecting management estimates having consideration of market commentary and risk factors.
- Capital development costs of US$10m.
- Discount rate of 10% post tax in real terms.

Given the implied net present value there were no reasonably possible changes in these estimates that would result in the recoverable amount being less than the carrying value. Accordingly, a reversal of impairment was recorded as detailed in note 6.

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 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.

Financial assets

Financial assets are classified as either financial assets at amortised cost, at fair value through other comprehensive income (“FVTOCI”) or at fair value through profit or loss (“FVPL”) 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 FVPL, 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.

Customer contracts

Under 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 FVPL and measured at fair value with changes in fair value recorded as other revenue.

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.

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.

Financial liabilities

The Group has the following non-derivative financial liabilities: 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.

(iii) 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 to a working condition for their 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 50 years;
- Plant and equipment 4-17 years;
- Vehicles 7 years;
- Computers 3 years;
- Other 5 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;
- 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 suggests that the carrying amount of exploration and evaluation assets may exceed its recoverable amount, which is the case when: the period of exploration license has expired and it is not expected to be renewed; substantial expenditures on further exploration are not planned; exploration has not led to the discovery of commercial 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;
- mineral rights 20 years.

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

(g) Leased assets

As per IFRS 16 Leases the Group have applied the simplified transition approach for recognising liabilities. On adoption of IFRS 16, the Group recognised lease liabilities in relation to leases which had previously been classified as 'operating leases' under the principles of IAS 17 Leases. These liabilities were measured at the present value of the remaining lease payments, discounted using the incremental borrowing rate as of 1 January 2019. Until the 2019 financial year, leases of property, plant and equipment were classified as either finance leases or operating leases. From 1 January 2019, leases are recognised as a right-of-use asset and a corresponding liability at the date at which the leased asset is available for use by the Group. Assets and liabilities arising from a lease are initially measured on a present value basis. Lease liabilities include the net present value of the following lease payments: fixed payments (including in-substance fixed payments), less any lease incentives receivable and variable payments based on index or rate ´ amounts expected to be payable by the Group under residual value guarantees ´ payments of penalties for terminating the lease, if the lease term reflects the Group exercising that option. Lease payments to be made under reasonably certain extension options are also included in the measurement of the liability. The lease payments are discounted using the interest rate implicit in the lease. If that rate cannot be readily determined, which is generally the case for leases in the Group, the lessee's incremental borrowing rate is used, being the rate that the individual lessee would have to pay to borrow the funds necessary to obtain an asset of similar value to the right-of-use asset in a similar economic environment with similar terms, security and conditions.

(h) 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.

(i) 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 including future capital expenditure and development cost. 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 CGU.

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.

(j) Employee benefits

(i) Defined contribution plans

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

(iii) Share-based payments

The grant-date fair value of equity-settled share-based payment arrangements granted to employees is generally recognised as an expense, with a corresponding increase in equity, over the vesting period of the awards. The amount recognised as an expense is adjusted to reflect the number of awards for which the related service and non-market performance conditions are expected to be met, such that the amount ultimately recognised is based on the number of awards that meet the related service and non-market performance conditions at the vesting date. For share-based payment awards with non-vesting conditions, the grant-date fair value of the share-based payment is measured to reflect such conditions and there is no true-up for differences between expected and actual outcomes.

(k) Provisions

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.

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 cost for the unwinding of the discount.

(l) Revenue

(i) Goods sold

Revenue from customers comprises the sale of vanadium products with other revenues from gravel and waste rock etc. 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 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.

Transport costs to reach the delivery point are expensed as costs of sale.

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.

(m) Finance costs

Finance costs comprise interest expense on borrowings, unwinding of the discount on provisions for historical costs and site restoration, 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.

(o) 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.

(p) Earnings per share

The Group 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.

(q) 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.

(r) New and amended standards adopted

The Group has adopted IFRS 16 Leases from 1 January 2019.

IFRS 16 'Leases'

The IASB issued a new standard how to recognize, measure, present and disclose leases. This replaced IAS 17 which covers leases transactions. The new standard provides a single lessee accounting model, requiring lessees to recognize assets and liabilities for all leases unless the lease term is 12 months or less or the underlying asset has a low value.

The Group have undertaken an assessment of its leases and service contracts and applied the modified retrospective approach on transition to IFRS 16. In applying IFRS 16 for the first time, the Group has used the following practical expedients permitted by the standard: ´ accounting for operating leases with a remaining lease term of less than 12 months as at 1 January 2019 as short-term leases ´. Based on analysis of the contracts, all of the arrangements were either of insignificant value or qualified as short term leases.

4 Revenue

	2019 $000	2018 $000
Revenue from sales of vanadium products	2,376	4,540
Sales of gravel and waste rock	15	3
Total revenue from customers	**2,391**	**4,543**
Other revenues – change in fair value of customer contract	(550)	(323)
	1,841	**4,220**

Vanadium 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 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 initially received revenue. 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. Refer to note 12, 24 and 25 for details of trade receivables and payables at FVTPL recorded in 2019 and 2018.

5 Cost of sales

	2019 $000	2018 $000
Materials	1,674	916
Wages, salaries and related taxes	675	530
Depreciation	400	30
Write-down of inventories to net realisable value	172	-
Electricity	133	144
Raw materials obsolescence provision	36	6
Taxes other than income	-	10
Other	88	52
	3,178	**1,688**

6 Other income and reversal of impairment

	2019 $000	2018 $000
Reversal of impairment	-	1,775
Other	70	10
	70	**1,785**

Refer to note 2 for details of the impairment reversals in 2018.

7 Administrative expenses

	2019 $000	2018 $000
Wages, salaries and related taxes	959	732
Listing & reorganisation expenses	273	164
Professional services	159	49
Audit	144	110
Business trip expenses	83	26
Materials	82	41
Depreciation and amortization	28	16
Bank fees	18	11
Security	15	17
Communication and information services	8	12
Other	72	93
	1,841	**1,271**

8 Other expenses

	2019 $000	2018 $000
Impairment of receivables	-	21
Write-off of materials	-	5
Other	9	9
	9	**35**

9 Personnel costs

	2019 $000	2018 $000
Wages, salaries and related taxes	1,639	1,261
	1,639	**1,261**

During 2019 personnel costs of US$ 596 thousand (2018: US$ 450 thousand) have been charged to cost of sales, US$ 959 thousand (2018: US$ 732 thousand) to administrative expenses and US$ 84 thousand (2018: US$ 79 thousand) were charged to cost of inventories which were not yet sold as at the year-end.

10 Finance costs

	2019 $000	2018 $000
Net foreign exchange (income) costs	179	24
Unwinding of discount on site restoration provision	4	12
Net finance costs/(income)	**183**	**36**

11 Income tax

The Group's applicable tax rates in 2019 are the income tax rate of 20% for Kazakhstan subsidiaries (2018: 20%) and 0% (2018: 0%) for Guernsey and BVI 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 2019 and 2018 the Group incurred tax losses and therefore did not recognise any current income tax expense except in relation the provision of Group services where an income tax charge of US$1,000 was incurred in 2018. Unrecognised deferred tax assets are described in Note 15.

Reconciliation of effective tax rate:

	2019		2018	
	$000	**%**	**$000**	**%**
(Loss)/profit before tax (Group)	**(3,342)**	**-**	**2,964**	**100**
Income tax at the applicable tax rate	(669)	20	593	20
Effect of unrecognised deferred tax assets / (utilisation of previously unrecognised losses)	295	(9)	(420)	(14)
Net non-deductible expenses/non-taxable income or loss	374	(11)	(174)	(6)
	-	-	(1)	-

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 2018	1,853	2,015	364	13	42	202	4,489
Additions	9	131	123	13	47	350	673
Disposals	-	(27)	-	-	(4)	(17)	(48)
Foreign currency translation difference	(251)	(283)	(61)	(3)	(10)	(61)	(669)
Balance at 31 December 2018	**1,611**	**1,836**	**426**	**23**	**75**	**474**	**4,445**
Balance at 1 January 2019	1,611	1,836	426	23	75	474	4,445
Additions	2	183	157	15	28	1,053	1,438
Transfers	62	28	-	-	-	(90)	-
Disposals	-	(48)	-	-	-	-	(48)
Foreign currency translation difference	12	15	4	1	1	8	41
Balance at 31 December 2019	**1,687**	**2,014**	**587**	**39**	**104**	**1,445**	**5,876**
Depreciation							
Balance at 1 January 2018	1,853	2,015	295	13	32	202	4,410
Depreciation for the period	-	10	29	1	5	-	45
Disposals	-	(27)	-	-	-	-	(27)
Reversal of impairment	(1,022)	(393)	-	-	-	(175)	(1,590)
Foreign currency translation difference	(250)	(270)	(42)	(2)	(5)	(27)	(596)
Balance at 31 December 2018	**581**	**1,335**	**282**	**12**	**32**	**-**	**2,242**
Balance at 1 January 2019	581	1,335	282	12	32	-	2,242
Depreciation for the period	53	312	46	6	9	-	426
Transfer	-	-	-	-	-	-	-
Disposals	-	(14)	-	(1)	(2)	-	(17)
Foreign currency translation difference	5	12	2	-	-	-	19
Balance at 31 December 2019	**639**	**1,645**	**330**	**17**	**39**	**-**	**2,670**
Carrying amounts							
At 1 January 2018	**-**	**-**	**69**	**-**	**10**	**-**	**79**
At 31 December 2018	**1,030**	**501**	**144**	**11**	**43**	**474**	**2,203**
At 31 December 2019	**1,048**	**369**	**257**	**22**	**65**	**1,445**	**3,206**

During 2019 depreciation expense of US$394 thousand (2018: US$24 thousand) has been charged to cost of sales, excluding cost of finished goods that were not sold at year-end, US$26 thousand (2018: US$ 15 thousand) – to administrative expenses, and US$6 thousand has been charged to cost of finished goods that were not sold at the year-end (2018: US$6 thousand). 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 relate to Balasausqandiq deposit. During the year ended 31 December 2019 the Group did not capitalise any exploration and evaluation assets (in 2018: US$Nil). As at 31 December 2019 the carrying value of exploration and evaluation assets was US$0.059m (2018: US$0.059m). In 2018 the Group reversed an impairment of US$0.16m with the movement for the year net of a change in estimate on provisions for rehabilitation.

14 Intangible assets

	Mineral rights $000	Patents $000	Computer software $000	Total $000
Cost				
Balance at 1 January 2018	115	36	4	155
Additions	-	2	-	2
Foreign currency translation difference	(16)	(5)	(1)	(22)
Balance at 31 December 2018	**99**	**33**	**3**	**135**
Balance at 1 January 2019	99	33	3	135
Additions	-	1	-	1
Foreign currency translation difference	1	-	-	1
Balance at 31 December 2019	**100**	**34**	**3**	**137**
Amortisation				
Balance at 1 January 2018	115	36	2	153
Amortisation for the year	-	-	1	1
Reversal of impairment	-	(23)	-	(23)
Foreign currency translation difference	(16)	(4)	(1)	(21)
Balance at 31 December 2018	**99**	**9**	**2**	**110**
Balance at 1 January 2019	99	9	2	110
Amortisation for the year	-	2	-	2
Foreign currency translation difference	1	(1)	1	1
Balance at 31 December 2019	**100**	**10**	**3**	**113**
Carrying amounts				
At 1 January 2018	-	-	2	2
At 31 December 2018	**-**	**25**	**-**	**25**
At 31 December 2019	**-**	**24**	**-**	**24**

During 2019 and 2018 amortisation of intangible assets was charged to administrative expenses. The immaterial reversal of impairment on patents refers to patents associated with the processing operation.

15 Deferred tax assets and liabilities

Unrecognised deferred tax assets

	31 December 2019 $000	31 December 2018 $000
Temporary deductible differences	229	219
Tax losses carried forward	3,256	2,945
Unrecognized tax deferred tax assets	(3,485)	(3,164)
	-	-

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.

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 2019 are presented below:

Expiry year	**$000**
2020	94
2021	86
2022	81
2023	258
2024	132
2025	63
2026	223
2027	134
2028	2,185
2029	-
	3,256

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

16 Inventories

	31 December 2019 $000	**31 December 2018 $000**
Raw materials and consumables	1,575	527
Finished goods	172	184
Work in progress	-	-
Goods in transit	3	218
	1,750	**929**

17 Trade and other receivables

Non-current	**31 December 2019 $000**	**31 December 2018 $000**
VAT receivable	1,012	594
Provision for VAT receivable	(360)	(357)
	652	**237**

Current	**31 December 2019 $000**	**31 December 2018 $000**
Trade receivables from third parties	30	21
Due from employees	17	24
Other receivables	9	14
	56	**59**
Expected credit loss provision	(21)	(21)
	35	**38**

The expected credit loss provision 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

	31 December 2019 $000	31 December 2018 $000
Non-current		
Prepayments for equipment	1,148	249
	1,148	**249**
Current		
Prepayments for goods and services	38	91
	38	**91**

19 Cash and cash equivalents

	31 December 2019 $000	31 December 2018 $000
Bank balances and other cash deposits	647	885
Petty cash	1	7
Cash and cash equivalents	**648**	**892**

20 Equity

(a) Share capital and share premium

Number of shares unless otherwise stated	Ordinary shares	
	31 December 2019	**31 December 2018**
Par value	-	-
Outstanding at beginning of year	305,471,087	1,523,732
Shares issued prior to share split	-	1,493
Share reorganisation (split)	-	305,045,000
	-	426,087
Shares issued	7,507,761	-
Outstanding at end of year	**312,978,848**	**305,471,087**

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.

In July 2018 the Company's shareholders voted by ordinary resolution to subdivide each share into 200 new shares of no par value so that the listed shares will be of a value within the normal range for listing companies. As a result the share premium was transferred to share capital in 2018.

On 28 March 2019 the Company was admitted to listing and on the same day issued the following ordinary shares in a placing carried out simultaneously on the London Stock Exchange ("LSE") and the Kazakhstan Stock Exchange ("KASE"):

	Date	No of shares	Price per share, $	Subscription amount, $
London Stock Exchange	28.03.2019	7,492,853	0.916384	6,866,331
Kazakhstan Stock Exchange	28.03.2019	14,908	0.916384	13,661
		7,507,761		**6,879,992**

Costs of US$304 thousand were incurred as transaction fees on the share issues and were recorded against the share capital.

On 14 May 2020 the Company has allotted 3,846,154 ordinary shares of no par value by way of a direct subscription into the Company for cash at a price of 6.5 pence per share, raising a total of £250,000.

Reserves

Share capital: Value of shares issued less costs of issuance. Prior to the share restructuring share capital related to the nominal value of shares issued.

Share premium: Amounts subscribed for shares in excess of nominal value less share issue costs, prior to the share restructuring. Subsequent to share restructuring no share premium applies.

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

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 permanent as equity.

Accumulated losses: Cumulative net losses.

(b) Dividends

No dividends were declared for the year ended 31 December 2019.

(c) (Loss) earnings per share (basic and diluted)

The calculation of basic and diluted (loss) / earnings per share has been based on the following loss attributable to ordinary shareholders and weighted-average number of ordinary shares outstanding.

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

	2019 $000	2018 $000
Loss for the year, attributable to owners of the Company	(3,342)	2,963
Loss attributable to ordinary shareholders	**(3,342)**	**2,963**

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

Shares	**2019**	**2018**
Issued ordinary shares at 1 January (after subdivision)	305,471,087	304,746,400
Effect of shares issued (weighted)	5,718,240	366,750
Weighted-average number of ordinary shares at 31 December	**311,189,327**	**305,113,150**
Earnings (loss) per share of common stock attributable to the Company (basic and diluted)	(0.011)	0.009

On 28 March 2019 the Company issued warrants to its lawyers as part of the remuneration for services provided in relation to the Company listing on the London Stock Exchange. See note 30. The warrants are anti-dilutive given the loss for the year.

21 Loans and borrowings

There were no outstanding loans at 31 December 2019 (31 December 2018: nil) and no borrowings or loan repayments in 2019 (in 2018: no borrowing or loan repayments).

22 Provisions

	2019 $000	2018 $000
Balance at 1 January	60	152
Unwinding of discount	4	12
Change in estimate	-	(92)
Foreign currency translation difference	-	(12)
Balance at 31 December	**64**	**60**
Non-current	64	60
	64	**60**

Site restoration

A provision was recognised in respect of the Group's obligation to rectify environmental damage in the Balasausqandiq mine, Kyzylorda region.

In accordance with Kazakhstan environmental legislation, 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. The amount for 2019 was updated in the recently signed addendum to the subsoil contract based on independent advice by an environmental consultant. 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 contract. Based on the working program which forms the part of the Subsoil contract the total amount is expected to reach KZT 675m or 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 inflation of 5.9% (31 December 2018: 5.3%). The estimated period for discounting was 24 years (2018: 25 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 Government officials at the time that restoration commences.

23 Trade and other payables

	31 December 2019 $000	31 December 2018 $000
Trade payables	256	302
Due to directors/key management	212	547
Due to employees	105	44
Other taxes	53	31
Advances received	-	5
	626	**929**

24 Payables at FVPL

	31 December 2019 $000	31 December 2018 $000
Payables at FVPL	59	264
	59	**264**

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;
- 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	
	31 December 2019 $000	**31 December 2018 $000**
Trade and other receivables, excluding amounts due from employees and VAT receivable	18	14
Cash and cash equivalents	647	885
	665	**899**

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

	Carrying amount	
	31 December 2019 $000	**31 December 2018 $000**
Kazakhstan	18	14
	18	**14**

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

	Carrying amount	
	31 December 2019 $000	**31 December 2018 $000**
Trade receivables:		
Wholesale customers	9	-
Other receivables		
Other	9	14
	18	**14**

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

	Gross 2019 $000	**Impairment 2019 $000**	**Net 2019 $000**	**Gross 2018 $000**	**Impairment 2018 $000**	**Net 2018 $000**
Not past due	18	-	18	14	-	14
Past due more than 180 days	21	(21)	-	21	(21)	-
	39	**(21)**	**18**	**35**	**(21)**	**14**

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

	2019 $000	**2018 $000**
Balance at beginning of the year	21	27
Expected credit loss change	-	(6)
Balance at end of the year	**21**	**21**

Amounts due from customers at year end have been subsequently collected in 2020, except for credit impaired amounts. Accordingly, no additional expected credit loss provision has been applied.

(ii) Cash and cash equivalents

As at 31 December 2019 the Group held cash of US$ 648 thousand (31 December 2018: US$ 892 thousand), of which bank balances of US$ 647 thousand (31 December 2018: US$ 885 thousand) represent its maximum credit exposure on these assets, which excludes petty cash. 96% (31 December 2018: 14%) is held in banks with credit ratings of A+ to AA-, 4% in banks with credit ratings of B to BB (31 December 2018: 86%). Credit ratings are provided by the rating agency Fitch.

(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.

2019

	Carrying amount $000	Contractual cash flows $000	On demand $000	0-6 mths $000
Financial liabilities				
Trade and other payables, excluding due to employees, advances received and salary related taxes and payables at FVTPL	315	315	-	315
	315	**315**	**-**	**315**

2018

	Carrying amount $000	Contractual cash flows $000	On demand $000	0-6 mths $000
Financial liabilities				
Trade and other payables, excluding due to employees, advances received and salary related taxes and payables at FVTPL	566	566	-	566
	566	**566**	**-**	**566**

(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.

(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:

	US$-denominated	GBP-denominated	HKD-denominated	RUB-denominated	KZT-denominated
	2019 $000	2019 $000	2019 $000	2019 $000	2019 $000
Cash and cash equivalents	141	478	-	3	25
Trade and other payables	(316)	(116)	-	(2)	(192)
Net exposure	**(175)**	**362**	**-**	**1**	**(167)**

	US$-denominated	GBP-denominated	HKD-denominated	RUB-denominated	KZT-denominated
	2018 $000	2018 $000	2018 $000	2018 $000	2018 $000
Cash and cash equivalents	830	13	1	-	41
Trade and other payables	(645)	(145)	-	(2)	(137)
Net exposure	**185**	**(132)**	**1**	**(2)**	**(96)**

The following significant exchange rates applied during the year:

in US$	**Average rate**		**Reporting date spot rate**	
	2019	**2018**	**2019**	**2018**
KZT 1	0.0026	0.0029	0.0026	0.0026
GBP 1	1.2764	1.3325	1.3117	1.2705
RUB 1	0.0155	0.0160	0.0162	0.0144
HKD 1	0.1276	0.1276	0.1284	0.1277

(ii) Interest rate risk

Changes in interest rates do not significantly impact the Group's position as at 31 December 2019. 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.

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

(e) Fair values versus carrying amounts

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

The basis for determining fair values is disclosed below.

Trade receivables and payables at FVTPL are recorded at fair value through profit and loss as they fail the criteria for amortised cost owing to the variability due to final pricing adjustments.

Financial instruments measured at fair value are presented by level within which the fair value measurement is categorized. 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 31 December 2019 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 on 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 2019 adjusted for the discount for AMV versus vanadium pentoxide, 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.

26 Commitments

Under the conditions of the subsoil use contract under which the Company 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 & Development and the development of the Shieli region. There is also an obligation set aside funds to provide for the eventual costs of mine closure and or site reclamation.:

- Minimum quantity of ore to be mined:

Year	Tonnes
2018	15,000
2019	15,000
2020	15,000
2021	15.000
2022	15.000
2023	545.000
2024 onwards	1.000.000 per year starting from 2025

- Training costs should be equal to 1% of the Group's capital expenditures on subsoil activities. Training costs in 2019: US$ 4,000 (2018: US$ 4.000)
- Research and Development should be equal to 1% of income from subsoil activities. Costs in 2019: US$ 11,000 (2018: US$ 3 thousand)
- The addition to the liquidation fund should be equal to 1% of the costs of mining ore: 2019: US$ 12,000 (2018: US$ 0.2 thousand)

- Expenditure on social development of the Shieli region should be equal to 1.5% of the costs of mining ore. 2019 costs: US$ 500 (US$2018: US$ 0.2 thousand).

All obligations have been complied with.

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 contingencies

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.

2019

	Processing $000	**Subsoil $000**	**Corporate $000**	**Total $000**
Revenue	1,841	-	-	1,841
Cost of sales	(3,178)	-	-	(3,178)
Other income	20	-	50	70
Impairment reversal	-	-	-	-
Administrative expenses	(556)	(49)	(1,236)	(1,841)
Distribution & other expenses	(51)	-	-	(51)
Finance costs	(203)	-	20	(183)
Profit before tax	**(2,127)**	**(49)**	**(1,166)**	**(3,342)**

2018

	Processing $000	**Subsoil $000**	**Corporate $000**	**Total $000**
Revenue	4,220	-	-	4,220
Cost of sales	(1,688)	-	-	(1,688)
Other income	10	-	-	10
Impairment charge	1,775	-	-	1,775
Administrative expenses	(463)	(55)	(753)	(1,271)
Distribution & other expenses	(46)	-	-	(46)
Finance costs	117	(12)	(141)	(36)
Profit before tax	**3,925**	**(67)**	**(894)**	**2,964**

Included in revenue arising from processing are revenues of US$ 1,5m (2018: US$3.9) which arose from sales to the Group's largest customer. No other single customer contributes 10 per cent or more to the Group's revenue.

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):

	2019 $000	**2018 $000**
Wages, salaries and related taxes	450	363

Refer to note 23 for details of payables to key management and note 30 and the Directors' Report for shares issued to key management.

(b) Transactions with other related parties

There were no Group's other related party transactions.

30 Share-based payments and warrants

During 2018, the Group had an arrangement whereby the Company's non-executive directors ("NEDs") and a part-time employee were remunerated for their services by the issue of the number of the Company's ordinary shares equal in value, taking the value to be the latest price at which shares were subscribed for by third parties, to the agreed remuneration. In 2018, 393 shares were issued prior to the subdivision of the company's shares, equivalent to 78,600 shares post subdivision, and 52,174 shares were issued after the subdivision. The cost of services received from NEDs and the part-time employee was measured as a product of the number of shares issued and the fair value of those shares. The fair value of shares was determined by reference to the consideration received for share subscriptions from third-party subscribers during the year being US$75,195 in 2018. This arrangement was not continued in 2019.

As a result, the Group recognised an increase in share capital of US$ 75 thousand in 2018 as administrative expenses in the statement of profit or loss and other comprehensive income. There was no effect in 2019.

On 28 March 2019 the Company issued warrants to its lawyers as part of the remuneration for services provided in relation to the Company listing on the London Stock Exchange. The principle terms of those warrants are that the holder is entitled to acquire shares in the Company at a fixed price per share at any time during the three years from the date of issue

Exercisable into number of shares (as issued and currently outstanding):	*64,285*
Exercise price:	*£0.70 per share*
Period of exercise:	*At any time up to 28 March 2022*

The warrants are freely transferable

The warrants were valued at the time of issue by means of the Black-Scholes valuation model. The volatility was estimated at 50% based on peer analysis. The risk-free interest rate was estimated as 2.43%. It was assumed that no dividends would be paid during the exercise period. On this basis the fair value of the warrants issued was USD17,323 which was charged to the income statement and was credited to Additional Paid In Capital.

31 Subsequent events

On 6 January 2020 the Company's shares were admitted to listing on the Astana International Stock Exchange (AIX).

From 23 January 2020 the Company's shares were delisted from the Kazakh Stock Exchange (KASE).

On 6 April 2020 the Company issued 500,000 fully paid shares to a financial service provider in consideration for their retained services.

On 14 May 2020 the Company issued 3,846,154 ordinary shares for cash at a price of 6.5 pence per share to raise £250,000 to finance operation processes.

In June 2020 the Company issued unsecured corporate bonds with an interest rate of 7.5% to raise a further $300,000

- Investors have subscribed for 150 of the Company's bonds with a nominal value of US$2,000 each. The bonds are unsecured, have a three-year term, and bear interest of 7.5%, paid twice-yearly. The bonds have been listed on AIX with identifier FAR.0323 and ISIN number KZX000000336.

- 50 bonds were issued on 5th June 2020 with a maturity date of 5 June 2023, and 100 bonds issued on 11th June 2020 with a maturity date of 11 June 2023. The investors have the right to receive early repayment after a minimum period of 12 months.

At the date of approval of these consolidated financial statements, Covid-19 continues to spread internationally, contributing to a sharp decline in global financial markets and a significant decrease in global economic activity. On 11 March 2020, the Covid-19 outbreak was declared a global pandemic by the World Health Organization and has since then resulted in numerous governments and companies, including Ferro-Alloy Resources Limited, introducing a variety of measures to contain the spread of the virus. The outbreak has also created significant volatility in financial markets and is considered to have negatively impacted commodity prices and caused disruption to operations, which is relevant to financial performance since year end.