

**Zanaga Iron Ore Company Limited – 2018 Annual Report and Accounts**

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# Business Overview

27 June 2019

## 2018 Highlights and post reporting period end events to June 2019

- Early Production Project (“EPP Project” or “EPP”)
  - Targeting 1 million tons per annum (“Mtpa”) production of high grade >65% Fe iron ore pellet feed concentrate / pellets with low impurities with construction period of 2 years
  - Evaluation process progressing well on low capital cost development
    - Targeting US\$110m capital cost for full iron ore pellet project, using conventional pelletisation process
    - Evaluation process expected to conclude during H2 2019
  - Substantial plant technical work complete
    - Bulk sample utilised for product testing
    - Low capex, low opex milling solution proven viable
    - Beneficiation test work confirmed process flow sheet
    - Indicative detailed pellet feed plant cost estimate received
    - Bolt-on pellet plant cost estimate being refined
  - Preferred mining contractor selected – contract discussions under way
  - Brownfield logistics solution entering final stages of definition
    - Minor road upgrades required for road route to Franceville, Gabon
    - Multiple trucking contractors engaged – optimal solution being refined
    - Rail and port costs entering detailed negotiation
  - Potential production of Direct Shipping Ore (“DSO”) now under investigation
    - Product expected to be similar to industry benchmark 62% iron ore
    - Expected to require only a few months to bring into production following a construction decision and permitting being secured
    - Evaluation process leverages extensive study work already concluded on the EPP with results to be provided in H2 2019
  - On completion of assessment and evaluation work, outcomes to be presented to the board of Jumelles Ltd, the joint venture company (“Jumelles”) for consideration
- 30Mtpa staged development project (12Mtpa Stage One (“Stage One”), plus 18Mtpa Stage Two expansion (“Stage Two”))
  - Positive indicative results from internal review of the economics of the development project as outlined in the 2014 Feasibility Study (“2014 FS”)
    - 2014 FS model reviewed internally to illustrate potential impact of 65% iron concentrate index pricing formula

- Value engineering opportunities have been identified with potential to provide significant capital and operating cost reductions, including potential incorporation of low cost milling solution tested in H2 2018
- Project Team engaging with third party contractors and consultants to evaluate options to investigate savings achievable on the 30Mtpa staged development project to a higher degree of confidence
- Port
  - Non-binding Letter of Intent (“LOI”) submitted to China Road and Bridge Corporation (“CRBC”) by Mining Project Development Congo SAU (“MPD Congo”) and other mining companies to support CRBC’s current discussions with Chinese funding institutions for the development of the new bulk mineral port at Pointe-Indienne, Republic of Congo (“RoC”)
- Cold pelletisation technology tests successfully achieve production of a pellet of sufficient quality to meet industry standards as determined by third party laboratories. Process underway to ascertain commercial acceptability with steel mills
- Work programme and budget for 2019 and 2019 Funding Agreement agreed with Glencore Projects Pty Ltd (“Glencore”), a subsidiary of Glencore
- Cash balance of US\$2.0m as at 31 December 2018 and a cash balance of US\$1.4m at 31 May 2019
- Appointment of Mr Jonathan Andrew Velloza (“Johnny Velloza”) to the board of ZIOC as an Independent Non-Executive Director on 6 September 2018

**Clifford Elphick, Non-Executive Chairman of ZIOC, commented:**

*“I am pleased to report to shareholders on the significant progress made by the Project Team in progressing the Zanaga Project in 2018. In addition, the environment for tier one iron ore projects has significantly improved. The combination of a rise in benchmark iron ore prices as well as a simultaneous expansion in premiums for high quality iron ore products, driven by China’s push to reduce environmental pollution, has led to more favourable conditions for the Zanaga Project.*

*The Project Team have been actively preparing the project for this resurgence in iron ore prices and their focus on the need to position Zanaga’s iron ore product at the higher end of the global iron ore market is bearing fruit. The focus of Zanaga’s Early Production Project remains to produce iron ore in a shorter period of time, at low capital cost, utilising existing brownfield logistics solutions.*

*We look forward to providing further updates to shareholders as results are received from the current study work programmes and conclusion of Jumelles’ evaluation process on the EPP Project.”*

The Company will post its Annual Report and Accounts for the year ended 31 December 2018 (“2018 Annual Report and Accounts”) to shareholders on 28 June 2019.

The 2018 Annual Report and Accounts will be available on the Company’s website [www.zanagairon.com](http://www.zanagairon.com) today.

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**About us:**

Zanaga Iron Ore Company Limited (“ZIOC” or the “Company”) (AIM ticker: ZIOC) is the owner of 50% less one share in the Zanaga Iron Ore Project based in the Republic of Congo (Congo Brazzaville) through its investment in its associate Jumelles Limited. The Zanaga Iron Ore Project is one of the largest iron ore deposits in Africa and has the potential to become a world-class iron ore producer.

## **Chairman's Statement**

Dear Shareholder,

The iron ore market has moved into deficit due to substantial increases in steel production globally, driven by record production in China, as well as the removal of significant iron ore supply following the tragic accidents from failed tailings dam infrastructure in Brazil and the cyclone in Australia. As a result of this sudden supply shock and simultaneous robust demand, the iron ore price has rebounded to levels not seen since before the commodity crisis in 2014.

In addition, there remains a continuing trend towards demand for high quality iron ore products similar to that which would be produced by the Zanaga Iron Ore Project ("Zanaga Project"). This evolution of consumption towards higher quality products has been driven by a strong push from China to reduce pollution and improve efficiency in its energy consumption and steel production operations. The sustained level of significant premiums being paid for higher quality products similar to the type of product anticipated from the Zanaga Project encourages us to believe that this is a structural, rather than a cyclical, shift in industry pricing dynamics.

As previously reported to shareholders, Jumelles, the joint venture between the Company and Glencore, has been undertaking a process to evaluate the potential development of a 1Mtpa EPP Project that would be quicker to construct than the larger 30Mtpa staged development project and would utilise existing road, rail and port infrastructure.

The Zanaga Project Team ("Project Team") continue to advance study work in an effort to improve their understanding of the viability of the EPP Project with an aim to determining capital and operating cost estimates in H2 2019 in order to allow a view to be taken on the economic viability of this EPP Project.

### **New Mineral Port in Pointe-Indienne**

In March 2013, the RoC signed a Memorandum of Understanding with China Communications Construction Company ("CCCC"), and its subsidiary China Road and Bridge Corporation ("CRBC"), for the development of a new multi-user port facility 9km north of the existing port of Pointe-Noire at Pointe Indienne, including a deepwater bulk export facility for the iron ore industry. CRBC has conducted a significant amount of work on this major project, including a feasibility study on the port development.

ZIOC notes that there is still discussion between the the government of RoC, China EXIM Bank and CRBC on the financing and development plan for the new bulk materials port development north of Pointe Noire.

ZIOC confirms that a non-binding LOI has been provided to CRBC by Jumelles' subsidiary, MPD Congo, and four other mining companies to support the development of this port; this LOI outlines the need to hold discussions with CRBC to determine an economically and technically viable development of the new port in alignment with the needs of the mining companies.

### **Permitting**

It is recognised by the Project Team that the current permitting regime which applies to the development of the Zanaga Project would need to be supplemented in the event of an early stage production process proceeding. Initial consideration has already been given to the supplemental regime which would need to be put in place.

### **Iron Ore Market**

The iron ore market has experienced dramatic events in the last year. The tragedy caused by the failure of the Brumadinho tailings dam has led to extensive closures of production in Brazil which are likely to last for a number of years. In addition, earlier this year Australia experienced a cyclone that resulted in a reduction of iron ore exports of approximately 14 million tons in the first quarter of 2019 and caused a meaningful reduction in supply of benchmark iron ore product.

As highlighted by ZIOC in the past, the crackdown by the Chinese government on the level of pollution resulting from domestic steel production plant has caused a change in the purchasing behaviour of the iron ore market's biggest consumer.

This has led to a substantial increase in prices of high quality iron ore products, with high iron content itself (improving yield in a steel plant) and lower impurity levels, requiring less coking coal and having a significantly reduced environmental impact.

The scale of the price premiums being paid for these high quality iron ore products has significantly exceeded market expectations. This underlines the importance of projects with ores capable of producing premium products at costs that result in the achievement of high margins. This is explained in more detail in ZIOC's project update announcement on 28 March 2019.

### **Changes to the Board of Directors**

Johnny Velloza joined the board of ZIOC as an Independent Non-Executive Director following the Company's Annual General Meeting on 6 September 2018. Mr Velloza has a wealth of experience in the mining industry. Prior to this, he was with Gem Diamonds Ltd as Deputy CEO and COO, and prior to that he was with BHP Western Australia Iron Ore where he was General Manager at Mining Area C, the largest iron ore mine in the BHP portfolio, from 2013 to 2015, leading a number of successful operational efficiency programmes. He has also acted as a Senior Exploration Manager in Zambia and Chile for BHP from 2011-2013, Operations Manager at AngloGold Ashanti from 2009-2010 and held numerous managerial positions at De Beers from 2001-2009.

Mr Velloza, aged 48, holds a Bachelor's degree in Mining Engineering from The University of Johannesburg and a Bachelor's degree in Business from The University of South Africa.

In addition, Mr Michael Haworth stepped down as a Director to focus on other business commitments and retired at the Company's Annual General Meeting on 5 September 2018.

### **Cash Reserves and Project Funding**

ZIOC is pleased with the current operating budget expectations for the Project for 2019 and expects the Project Team to continue to deliver on work programmes as planned.

Similar to the Funding Agreement for 2018 project expenditure, Glencore and ZIOC have agreed a 2019 Project Work Programme and Budget for the Project of US\$1.3m plus US\$0.1m of discretionary spend dependent on certain workstreams requiring capital. ZIOC has agreed to contribute towards this work programme and budget an amount comprising US\$0.6m plus 49.99% of all discretionary items approved jointly with Glencore. Ignoring any entitlement to savings, ZIOC's potential contribution to the Project in 2019 under the 2019 Funding Agreement is US\$0.7m in total. In the event that a decision is taken to allocate capital to more extensive product tests or study work, additional funding may be required.

Based on the current cost base at the Zanaga Project, as well as the current low corporate overheads of ZIOC, we are well positioned to support our operations going forward in the near future. The board of directors of ZIOC (the "Board") is of the view that ZIOC has sufficient funds to meet its own working capital requirements up to, and beyond, twelve months from the approval of these accounts. The Company had cash reserves of US\$1.4m as at 31 May 2019 and continue to take a prudent approach to managing these funds.

### **Outlook**

As a result of the work completed on the EPP, significant progress has been made in taking steps towards repositioning the Zanaga Project to be developed on the basis of a smaller start-up with a relatively low capital cost investment requirement. This is a major improvement and substantially reduces the financing challenge associated with bringing a new mining project into production.

We are enthusiastic about the prospects for the Zanaga product's desirability in the current iron ore market due to the continued high premiums being paid for high quality iron ore products.

Due to the improvements in conditions for the iron ore market, steps are also being taken to evaluate options available to optimise the 30Mtpa staged development project, particularly with a view to assessing solutions available for infrastructure funding.

We look forward to providing an update to shareholders in H2 2019 as the Project progresses.

**Clifford Elphick**  
Non-Executive Chairman

A handwritten signature in dark ink, appearing to read 'Clifford Elphick', written in a cursive style.



# Strategic Report

## Business Review

The Zanaga Project is currently benefiting from multiple improvements in conditions for the Project. The positive impact of high iron ore prices, and significant price premiums for high quality products in particular, provides a strong foundation for the Project to progress through its technical milestones in 2019.

The Project Team's work in evaluating the potential for an early production project that would produce 1Mtpa of high quality iron ore product at a capital cost of less than US\$110m is potentially capable of constituting a major improvement. If the early production project is judged viable and is successfully proceeded with, it potentially provides a low cost platform for the Zanaga Project to enter into production. It could also lead to the evaluation of a number of alternative options for the development of the larger 30Mtpa staged development project.

The Project Team have worked to assess options for the initial development of the EPP Project, and critical to this work has been determining the viability of the smaller scale plant that would produce high quality iron ore product even at the reduced scale.

In addition, the Project Team are currently evaluating the potential for a small scale DSO project to commence production of a product similar to industry benchmark 62% Fe. This evaluation processes leverages the extensive study work done by the Project Team in ascertaining current mining and logistics costs for the EPP Project. Further updates will be provided in H2 2019.

## Early Production Project

The EPP Project is envisaged as an initial development stage for the Zanaga Project, targeting an operating scale of 1Mtpa of pellet feed iron ore concentrate and/or iron ore pellets with transportation of the product via existing logistics infrastructure. The objective would then be to leverage the operating skills gained through this initial phase to develop and partly fund the larger 30Mtpa (12+18Mtpa) staged development project which would require substantially greater capital investment, newly built bulk logistics infrastructure, and a four year construction period.

The Project Team has adopted a strategy towards the EPP Project of engaging experienced third party contractors for mining and for all logistical aspects of the EPP Project such as the trucking, rail and port solutions. As a result, Zanaga's operating company would only be required to undertake the EPP Project's processing activities. Through this approach, it is believed capital expenditure can be minimised and limited predominantly to the processing plant solution required for the beneficiation of Zanaga iron ore into a high grade iron ore product pellet feed/pellet product.

A comprehensive update on the EPP Project's evaluation process as well as recent developments on the 30Mtpa staged development project was provided to shareholders on 28 March 2019. Key elements of that update are provided below with some additions to incorporate the potential DSO stage.

### 1) Mining Contract

The Project Team has made significant progress in refining the cost estimate associated with the mining contract. The third party mining contractor would be expected to source all capital equipment for the operation, which would result in Jumelles not being required to finance the capital costs associated with establishing the mining operation. The estimated operating costs associated with the mining contract have been provided and are in the process of negotiation.

### 2) Pellet Feed Concentrate Plant

An Engineering Procurement and Construction company ("EPC") has been selected as the preferred provider of the process plant facilities. In order to refine and confirm the costs associated with the EPC's initial proposal, three tons of Zanaga's iron ore, representative of the orebody's upper layers, were sent for testing with the equipment providers selected by the EPC.

As a primary step, it was deemed important to evaluate the capabilities of the EPC's proposed milling solution which was expected to provide significant benefits, specifically through lower capital costs, operating costs, and power consumption rates in comparison to the ball milling solution previously selected as part of the milling solution in the 2014 FS. The Project Team is pleased to report that this new milling solution for the pellet feed concentrate plant performed well and Zanaga's test material was successfully milled to desired levels in multiple tests.

A number of samples were selected from the milled material for the subsequent beneficiation test work programme. The milled material was delivered to beneficiation test facilities in Brazil and South Africa and underwent a competitive evaluation process to ascertain the optimal beneficiation solution based on capital and operating costs, as well as product grade and material recoveries achieved. The beneficiation test work process is now complete and the costs associated with the optimal solution have been assembled into a revised cost estimate.

The Project Team has received, from the EPC responsible for the cost estimate of the pellet feed concentrate plant, an indicative detailed cost estimate which is summarised below:

Capital cost	US\$38m
Operating cost	US\$3.75/t Run of Mine (excluding power)
Schedule	22 months (fully installed on site)
Target product grade	Greater than 65% Fe with combined Silica plus Alumina less than 5%

### 3) Pellet Plant

The Project Team are investigating the possibility of pelletising Zanaga's pellet feed concentrate product into a higher value product, which would be expected to secure higher revenue per ton.

The Project Team has received a high-level preliminary indicative cost estimate from Outotec, a well-regarded pelletisation plant manufacturer for the installation of a 1Mtpa pelletisation plant at the mine site. This estimate includes a high-level indicative capital cost estimate of US\$50-\$60 million for a pellet plant, with a power consumption estimate of 4.0 to 4.5MW. The operating costs are in the process of being defined through technical conversations between the pelletisation plant manufacturer and the Project Team. The estimated timetable for full installation of the pellet plant is 24 to 28 months.

Further to the Project update provided on 28 March 2019, Outotec has now commenced the process of integrating the pellet plant into the pellet feed concentrate plant design. This is being done with the objective of seeking to secure synergies in construction timing with the project's South African EPC contractor while simultaneously maximising South African content within the two plants in order to enhance the option of securing larger Export Credit Agency financing from South African financing institutions.

In addition, as previously announced, the Zanaga Project is currently investigating a new technology pelletisation solution. A memorandum of understanding has been signed between Jumelles and Binding Solutions Ltd ("BSL") to investigate the potential of BSL's polymer binder technology. The Project Team and BSL are working together to ascertain the commercial viability of this technology and it should be noted that there can be no guarantee that the results will be successful, despite the positive results achieved to date in testing the cold pelletisation of Zanaga iron ore samples at a laboratory scale. At the moment, if a pelletisation option were to be pursued by the Zanaga Project, the conventional pelletisation solution should be regarded as the EPP Project's preferred option versus the cold pelletisation opportunity.

### 4) Road Infrastructure and Trucking Contract

The Project Team is evaluating the optimal solution for the export of the EPP Project's iron ore via either Gabon or RoC. In order to export the material it needs to be trucked to a railway siding in either RoC or Gabon. Two potential rail sidings are currently under consideration, either (a) Franceville in Gabon, which is approximately 173km from the Zanaga Project, or (b) Mossendjo in RoC, which is approximately 160kms from the Zanaga mine site.

The Project Team have received proposals for the cost of upgrading both road options under consideration. The condition of the road to Franceville in Gabon is significantly better than the road to Mossendjo in RoC.

As regards a trucking contract, the Project Team have entered into discussions with multiple third party trucking companies to secure cost estimates for the trucking of material to the rail siding alternatives. These discussions are progressing well and a number of cost estimates have been received and are in the process of being evaluated and refined.

#### 5) Rail and Port contract

The Project Team are discussing a potential solution for the rail and port logistics solutions with the relevant service providers in Gabon and RoC. However, the Gabonese route is currently the preferred route due to a lower expected capital cost associated with upgrading the road to the rail siding in Franceville as well as the Gabon rail and port infrastructure being a more technically advanced solution operationally, due to the current level of operations on the Transgabonais railway line today as well as the significant port expansion under way in Libreville.

#### 6) Power

A significant cost driver associated with the viability of the EPP Project is the power requirement. The power requirement on the mine site is expected to be between 5.9MW and 10.4MW depending on whether a pellet plant is included and whether it is located on the mine site or located closer to the logistics infrastructure in Gabon or RoC. The option of potentially connecting the more energy intensive pellet plant to existing grid power infrastructure and avoiding capital costs associated with a larger power solution on the mine site is under consideration.

The Project Team is investigating multiple power solutions for providing power to the mine site. The simplest solution is to install diesel generator sets for the 5.9MW of mine site activities and target connection of the potential pellet plant to grid power infrastructure. The indicative high-level preliminary estimated cost of this power solution is well understood now and is expected to be approximately U\$20/kwh.

The Project Team is also investigating, amongst other solutions, the potential for the inclusion of small scale hydro power into the EPP Project which would increase capital costs but could provide very low cost power as regards operating costs.

#### 7) Potential DSO stage

Due to high prices for benchmark 62% Fe product the board of Jumelles has approved a process to evaluate the potential for the production of up to 1Mtpa of DSO iron ore product. While the process has only just commenced, the evaluation of this option leverages the extensive study work already completed on the EPP Project.

The intention is to consider this interim production phase as a viable solution during the construction of the EPP Project; however the board of Jumelles is not ruling out the possibility of this option being a standalone project albeit with a shorter expected life of production.

Depending on how this initiative proceeds, it is the intention to provide further information in due course alongside information provided on the progress of the assessment of the EPP Project.

#### 8) Conclusion and Next Steps

It is the Project Team's intention to secure fixed price cost estimates for key aspects of the proposed EPP Project as part of the process of determining its viability and economic feasibility. Many of the key indicative cost estimates contained in proposals so far submitted by the entities approached by the Project Team are now better understood. Once cost estimates have been fully received and refined and sufficient information has been received to enable the proposed EPP to be fully assessed as to its viability, the outcomes will be assembled into a report for the Board of Jumelles. Depending on the achievement of a positive outcome and authorisation from the Jumelles Board, the Zanaga Project would then be seeking to move towards securing

regulatory permits and consents, the negotiation of contracts and seeking financing for construction and operation.

The Project Team intend on concluding the evaluation process for the EPP Project during H2 2019.

The intention of the work underway on the Project is to establish whether the EPP Project is a viable proposition. If the Jumelles Board and the shareholders of Jumelles (ZIOC and Glencore) conclude that the EPP is a viable proposition, and support taking the EPP initiative forward, that would enable the Project Team to then engage with governmental bodies, regulators and contractors as to the permitting process and contractual structures. Concurrently with the above process, discussions have already commenced with various parties on potential financing solutions for both debt and equity required for the development of the EPP Project.

### **30Mtpa Staged Development Project**

The Project Team's ultimate objective remains to develop the larger 30Mtpa staged development mining project. As a reminder, the Stage One project plans to produce 12Mtpa of premium quality 66% Fe content iron ore pellet feed product at bottom quartile operating costs for more than 30 years on a standalone basis. The capital cost associated with this Stage One phase was estimated at US\$2.2bn, including contingency, on completion of the 2014 FS.

The Stage Two expansion of 18Mtpa is nominally scheduled to suit the project mine development, construction timing and forecast cash flow generation, and would increase the Project's total production capacity to 30Mtpa. The product grade would increase to an even higher premium quality 67.5% Fe content iron ore pellet feed at even lower operating cost. The US\$2.5bn capital expenditure for the additional 18Mtpa production, including contingency, could potentially be financed from the cash flows from the Stage One phase.

#### **1) Economic evaluation exercise**

In view of changes in the pricing of iron ore products in the market and the emergence of a high grade pricing index which has been developed in recent years (referred to below), the Company has carried out the exercise of inputting new figures into the economic model produced as part of the 2014 FS in two specific areas focussed entirely on freight and iron ore pricing. This exercise has been carried out for illustrative purposes as a high level evaluation exercise.

As part of the 2014 FS on the 30Mtpa (12+18Mtpa) staged development Project, the potential economic outcomes of the Project were reviewed across a range of prices based on a long term 62% Fe benchmark index structure. However, in recent years the 65% concentrate index has become established and this should be seen as a more appropriate index on which to benchmark pellet feed concentrate products such as that which would be produced by the 12+18Mtpa staged development project.

Earlier this year, as reported to shareholders on 28 March 2019, the Company re-ran the 2014 FS model with a new range of prices from US\$70/dmt to US\$110/dmt for the 65% concentrate index. A summary of the outcomes of this exercise is presented below for illustrative purposes.

#### **Stage One**

Iron Ore Price (65% IODEX)	US\$/dmt	70	80	90	100	110
Internal Rate of Return	%	5.6%	11.0%	15.4%	19.2%	22.7%
Net Present Value	US\$m	-531	137	797	1,447	2,085
Net Free Cash Flow (5 year average post capex)	US\$m/year	261	388	503	617	730
EBITDA (5 year average, post capex)	US\$m/year	296	425	553	681	810

## Stage One and Two

Iron Ore Price (65% IODEX)	US\$/dmt	70	80	90	100	110
Internal Rate of Return	%	8.9%	13.4%	17.4%	20.6%	23.7%
Net Present Value	US\$m	-254	867	1,983	2,952	3,943
Net Free Cash Flow (5 year average post capex)	US\$m/year	614	849	1,082	1,254	1,450
EBITDA (5 year average, post expansion)	US\$m/year	799	1,082	1,366	1,649	1,932

Notes to tables above: Management estimates based on the 2014 FS financial model. Capex and opex figures contained in the 2014 FS have not been updated. Iron ore product pricing in the 2014 FS has been altered to a pricing formula based on the 65% Fe concentrate index, with a pro-rata adjustment for the Zanaga Project's higher iron ore content product. The Net Present Value is based on a discounted cash flow model at a 10% real discount rate and the Internal Rate of Return (IRR) is calculated on a 'real' basis, unlevered.

### New Mineral Port in Pointe-Indienne

In March 2013, the RoC signed a Memorandum of Understanding with CCCC, and its subsidiary CRBC, for the development of a new multi-user port facility 9km north of the existing port of Pointe-Noire at Pointe Indienne, including a deepwater bulk export facility for the iron ore industry. CRBC has conducted a significant amount of work on this major project, including a feasibility study on the port development.

ZIOC notes that there is still discussion between the RoC Government, China EXIM Bank and CRBC on the financing and development plan for the new bulk materials port development north of Pointe Noire.

ZIOC confirms that a non-binding LOI has been provided to CRBC by Jumelles' subsidiary, MPD Congo, and four other mining companies to support the development of this port; this LOI outlines the need to hold discussions with CRBC to determine an economically and technical viable development of the new port in alignment with the needs of the mining companies.

### Power

The Project Team are engaging on a variety of solutions for off-grid power suitable for the EPP Project. The EPP Project requires up to 10.4 megawatts of power and a number of entities have expressed an interest in providing this power solution. The Project Team are evaluating the option of sourcing third party power with Independent Power Producers ("IPPs"), as well as the option of incorporating an owned power solution into the project.

As regards the staged 30Mtpa staged development project the strategy is to connect the Project to the national network. The Project's 100MW power requirement would be supplied by existing and planned power generation capacity in the country, particularly the Sounda dam project and the different dam projects in the Louessé valley (close to Mossendjo – Mourala Dam projects).

Power would be delivered to the mine site through two connection points to the current 220kV transmission network within 160km and 200km of a proposed new transmission line to the east and south of the mine site respectively. The Project team has been engaging with potential IPPs and Government departments in order to develop a power supply for the Project. The team will be conducting further work during the remainder of 2019 on the potential for a power solution to be defined.

The Project's Stage Two ramp up to 30Mtpa is expected to increase power demand to approximately 230MW at the mine site and 16MW for the Project's facilities at the proposed new port. The increased mine site demand is sufficient to support independent power generation from locally available energy sources and we will plan this development in coordination with other planned regional power infrastructure developments.

The Project Team have also been working with a number of third parties to investigate the potential for optimisation of the power solution designed for the staged 30Mtpa Project outlined in the 2014 FS. A number of projects in the RoC are under investigation and could form part of the power solution for the Project. In addition, a number of areas of optimisation of the initial design are under investigation today.

In addition, the Project Team have been working with Sinohydro, a subsidiary of Power China on the development of a hydro power plant capable of providing up to 45MW of power for the EPP Project.

### **Permitting**

It is recognised by the Project Team that the current permitting regime which applies to the development of the Zanaga Project would need to be supplemented in the event of an early stage production process proceeding. Initial consideration has already been given to the supplemental regime which would need to be put in place.

### **Next Steps**

The Project Team remains encouraged by improving iron ore market conditions for premium products and the support this provides to advancing the Zanaga Project.

During H2 2019, the Project Team will continue to advance the EPP Project to final economic evaluation that will allow the Project to be presented to the Jumelles Board (and to the Jumelles shareholders) for consideration. As part of that process, contact is being made with potential third party debt and equity funding providers. Furthermore, the Project Team will be progressing opportunities to optimise the costs of the 30Mtpa staged development project as well as potential infrastructure funding structures with the potential to reduce the upfront capital cost of developing this larger production scenario.

## Financial Review

### Results from operations

The financial statements contain the results for the Group's eighth full year of operations following its incorporation on 19 November 2009. The Group made a total comprehensive loss in the year of US\$1.8m (2017: total comprehensive loss US\$1.4m). The total comprehensive income for the year comprised:

	2018 US\$000	2017 US\$000
General expenses	(919)	(943)
Net foreign exchange (loss)/gain	(152)	366
Share of loss of associate (including impairment by associate)	(795)	(824)
Interest income	9	8
Loss before tax	(1,857)	(1,393)
Currency translation	(8)	52
Share of other comprehensive income of associate –foreign exchange	-	(48)
Total comprehensive income / (loss)	(1,865)	(1,389)

General expenses of US\$0.9m (2017: US\$0.9m) consists of US\$0.4m professional fees (2017: US\$0.4m), US\$0.2m Directors' fees (2017: US\$0.3m) and US\$0.2m (2017: US\$0.2m) of other general operating expenses.

The share of loss of associate reflected above relates to ZIOC's investment in the Project, through Jumelles, which, generated a loss of US\$1.6m in the year to 31 December 2018 (2017: loss US\$1.6m). During the year Jumelles spent a net US\$1.6m (2017 US\$1.7m) on exploration, net of a currency translation loss of US\$nil (2017: loss US\$0.1m).

### Financial Position

ZIOC's Net Asset Value ("NAV") of US\$39.4m (2017: US\$41.3m) comprises of US\$37.4m (2017: US\$37.6m) investment in Jumelles, US\$1.9m (2017: US\$3.7m) of cash balances and US\$0.1m (2017: US\$0.3m net current liabilities) of other net current liabilities.

	2018 US\$000	2017 US\$000
Investment in Associate	37,450	37,589
Fixed Assets	-	-
Cash	1,955	3,721
Net current assets/(liabilities)	14	(27)
Net assets	39,419	41,283

### Cost of investment

The Investment in Associate relates to the carrying value of the investment in Jumelles which as at 31 December 2018 continued to own 100% of the Project. During 2018, under the existing 2018 Funding Agreement between the Company and Glencore, the Company contributed a further US\$0.7m (2017: US\$0.6m). Though a long term project, in the light of currently forecast market conditions, the carrying value of the exploration asset continues to be held in Jumelles at US\$80m (2017: US\$80m). The Company accounts for 50% less one share of Jumelles.

As at 31 December 2018, Jumelles had aggregated assets of US\$81.6m (2017: US\$81.9m) and aggregated liabilities of US\$0.8m (2017: US\$0.8m). Assets consisted of US\$80m (2017: US\$80m) of capitalised exploration assets, US\$1.27m (2017: US\$1.52m) of other fixed assets, US\$0.3m cash (2017: US\$0.3m) and US\$0.1m other assets (2017: US\$0.1m). Net of a currency translation loss of US\$nil (2017: loss US\$0.1m) a net total of US\$1.3m (2017: US\$1.6m) of exploration costs were capitalised during the year.

**Cash flow**

Cash balances decreased by US\$1.7m during 2018 (2017: decrease of US\$1.1m), net of interest income US\$0.01m (2017: US\$0.01m) and a foreign exchange loss of US\$0.16m (2017: gain of US\$0.36m) on bank balances held in UK Sterling. Additional investment in Jumelles required under the 2018 Funding Agreement (outline details in Note 1 to the financial statements) utilised US\$0.7m (2017: US\$0.6m) and operating activities utilised US\$0.9m (2017: US\$0.5m).

**Fundraising activities**

There were no fundraising activities during 2018 (2017: nil).



## Reserves & Resource Statement

The Zanaga Project has defined a 6.9bn tonne Mineral Resource and a 2.1bn tonne Ore Reserve, reported in accordance with the JORC Code (2012), and defined from only 25km of the 47km orebody identified.

### Ore Reserve Statement

The Ore Reserve estimate (announced by the Company on 30 September 2014) was prepared by independent consultants, SRK Consulting (UK) Ltd ("SRK") and is based on the 30Mtpa Feasibility Study and the 6,900Mt Mineral Resource (announced by the Company on 8 May 2014).

As stipulated by the JORC Code, Proven and Probable Ore Reserves are of sufficient quality to serve as the basis for a decision on the development of the deposit. Based on the studies performed, a mine plan was determined in 2014 to be technically achievable and economically viable.

Ore Reserve Category	Tonnes (Mt <sub>dry</sub> )	Fe (%)	SiO <sub>2</sub> (%)	Al <sub>2</sub> O <sub>3</sub> (%)	P (%)
Proved	770	37.3	35.1	4.7	0.04
Probable	1,300	31.8	44.7	2.3	0.05
<b>Total</b>	<b>2,070</b>	<b>33.9</b>	<b>41.1</b>	<b>3.2</b>	<b>0.05</b>

Notes:

Long term price assumptions are based on a CFR IODEX 62% Fe forecast of 60 US\$/dmt (97 US\$/dmtu at 62% Fe) with adjustments for quality, deleterious elements, moisture and freight.

Discount Rate 10% applied on an ungeared 100% equity basis

Mining dilution ranging between 5% and 6%

Mining losses ranging between 1% and 5%

Note: The full Ore Reserve Statement is available on the Company's website ([www.zanagairon.com](http://www.zanagairon.com))

### Mineral Resource

Classification	Tonnes (Mt)	Fe (%)	SiO <sub>2</sub> (%)	Al <sub>2</sub> O <sub>3</sub> (%)	P (%)	Mn (%)	LOI (%)
Measured	2,330	33.7	43.1	3.4	0.05	0.11	1.46
Indicated	2,460	30.4	46.8	3.2	0.05	0.11	0.75
Inferred	2,100	31	46	3	0.1	0.1	0.9
<b>Total</b>	<b>6,900</b>	<b>32</b>	<b>45</b>	<b>3</b>	<b>0.05</b>	<b>0.11</b>	<b>1.05</b>

Reported at a 0% Fe cut-off grade within an optimised Whittle shell representing a metal price of 130 US\$/dmtu. Mineral Resources are inclusive of Reserves. A revised Mineral Resource, prepared in accordance with the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (the JORC Code, 2012 Edition) was announced on 8 May 2014 and is available on the Company's website ([www.zanagairon.com](http://www.zanagairon.com)).

Note: The figures shown are rounded; they may not sum to the subtotals shown due to the rounding used.

The Mineral Resource was estimated as a block model within constraining wireframes based upon logged geological boundaries. Tonnages and grades have been rounded to reflect appropriate confidence levels and for this reason may not sum to totals stated.

### Geological Summary

The Zanaga iron ore deposit is located within a North-South oriented (metamorphic) Precambrian greenstone belt in the eastern part of the Chaillu Massif in South Western Congo. From airborne geophysical survey work, and morphologically, the mineralised trend constitutes a complex elongation in the North-South direction, of about 48 km length and 0.5 to 3 km width.

The ferruginous beds are part of a metamorphosed, volcano-sedimentary Itabirite/banded iron formation ("BIF") and are inter-bedded with amphibolites and mafic schists. It exhibits faulted and sheared contacts with the crystalline basement. As a result of prolonged tropical weathering the BIF has developed a distinctive supergene iron enrichment profile.

At surface there is sometimes present a high grade (+60% Fe) canga of apparently limited thickness (<5m) capping a discontinuous, soft, high grade, iron supergene zone of structure-less hematite/goethite of limited thickness (<7m). The base of the high-grade supergene iron zone grades quickly at depth into a relatively thick, leached, well-weathered to moderately weathered friable hematite Itabirite with an average thickness of approximately 25 metres and grading 45-55% Fe.

The base of the friable Itabirite zone appears to correlate with the moderately weathered/weakly weathered BIF boundary, and fresh BIF comprises bands of chert and magnetite/grunerite layers.

### **Competent Persons**

The statement in this report relating to Ore Reserves is based on information compiled by Mr Gabor Bacsfalusi who is a Chartered Professional Member of the Australasian Institute of Mining and Metallurgy. He is a mining engineer and Principal Consultant of SRK Consulting (Canada) Inc. He has sufficient experience relevant to the style of mineralisation and type of deposit under consideration and to the activity he is undertaking to qualify as a Competent Person as defined in the JORC Code (2012). The Competent Person, Mr Gabor Bacsfalusi, confirms that the historical (2014) Ore Reserve Estimate is accurately reproduced in this Annual Report and given his consent to the inclusion in the report of the matters based on his information in the form and context within which it appears. For the avoidance of doubt, SRK confirms that it has not undertaken any further additional technical work subsequent to publication of the 2016 Annual Report.

The information in the report that relates to Mineral Resources is based on information compiled by Malcolm Titley, BSc MAusIMM MAIG, of CSA Global (UK) Ltd. Malcolm Titley takes overall responsibility for the report as Competent Person. He is a Member of the Australasian Institute of Mining and Metallurgy ("AUSIMM") and has sufficient experience, which is relevant to the style of mineralisation and type of deposit under consideration, and to the activity he is undertaking, to qualify as a Competent Person in terms of the JORC Code. The Competent Person, Mr Malcolm Titley, has reviewed this Mineral Resource statement and given his permission for the publication of this information in the form and context within which it appears.

### **Definition of JORC Code**

The Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (2012) as published by the Joint Ore Reserves Committee of the Australasian Institute of Mining and Metallurgy, Australian Institute of Geoscientists and Minerals Council of Australia.

## **Principal Risks & Uncertainties**

The principal business of ZIOC currently comprises managing ZIOC's interest in the Zanaga Project, including the Jumelles group, and monitoring the development of the Project and engaging in discussions with potential investors. The principal risks facing ZIOC are set out below. Risk assessment and evaluation is an essential part of the Group's planning and an important aspect of the Group's internal control system.

### **Risks relating to the agreement with Glencore and development of the Zanaga Project**

The Zanaga Project is majority controlled at both a shareholder and director level by Glencore. The ability of the Company to control the Zanaga Project and its operations and activities, including the future development of the Project (including any variant such as an EPP development) and the future funding requirements of Jumelles, is therefore limited.

The future development of the mine and related infrastructure (including any variant such as an EPP development) will be determined by the Jumelles Board. There can be no certainty that the Jumelles board will approve the construction of the mine and related infrastructure or any variant thereof such as an EPP development, including the taking of preparatory steps associated with the construction of the mine and related infrastructure, such as front end engineering and design, or the undertaking of work needed to assess the viability of an EPP development or any component part of an EPP development.

### **Risks relating to future funding of the Zanaga Project**

Under the Joint Venture Agreement between the Company, Glencore and Jumelles of 3 December 2009, as amended (the "JVA"), there is no obligation on the Company or Glencore to provide further funding to Jumelles. The Company and Glencore have reached agreement on a work programme and funding of the Zanaga Project for 2019. As such agreement relates to 2019, there is a risk that after 31 December 2019 Jumelles may be subjected to funding constraints and this could have an adverse impact upon the Project. Moreover, discretionary amounts are contained in the 2019 work programme and budget; these require the joint approval of ZIOC and Glencore. It is possible that as regards certain items, joint approval would not be forthcoming.

### **Risks relating to iron ore prices, markets and products**

The ability to raise finance for the Project is largely dependent on movements in the price of iron ore. Iron ore prices have historically been volatile and are primarily affected by the demand for and price of steel and the level of supply of iron ore. Such prices are also affected by numerous other factors beyond the Company's and the Jumelles group's control, including the relative exchange rate of the U.S. dollar with other major currencies, global and regional demand, political and economic conditions, production levels and costs and transportation costs in major iron ore producing regions.

While it is anticipated that there will be a stabilisation of iron ore prices in the global market for iron ore, the timing of such stabilisation and the level of iron ore prices which eventually emerges is uncertain. Although the 2014 FS identifies the product from the Project and the potential demand for such product within a range of iron ore prices, there are no assurances that the demand for the Project's product will be sufficient in quantity or in price to ensure the economic viability of the Project or to enable finance for the development of the Project to be raised. Furthermore, the range of iron ore prices in the 2014 FS will need to be reviewed so as to reflect changed market conditions and changed expectations relating to the supply and demand for iron ore.

### **Risks relating to an EPP**

For some considerable period, an initiative has been and is being carried out to investigate the possibility of a low-cost small scale start-up, using existing infrastructure, focussing on a standard 62% Fe benchmark iron ore product or a high grade 65% Fe pellet feed iron ore product that would involve simple 'processing' applications. In conjunction with this, the possibility of a low-cost small scale start-up involving the production of a pellet feed concentrate and conventional pelletisation continues to be investigated. This initiative also involves the assessment of methods of providing the necessary power requirements as well as

logistical support to enable the product to be transported to an available exit port. There will also be the need to put in place the appropriate contractual and permitting arrangements. There is a risk that such kind of start-up is found not to be viable or is not proceeded with for other reasons or is delayed.

### **Cold Pelletising Test Results and confirmatory testing**

Additionally, a 'cold pelletisation' process, based on new and relatively untested cold pelletisation technology, has also been the subject of investigation. The purpose of the pelletising test work in relation to such process carried out was to test sizing and processing techniques to produce a client defined target concentrate, which, with the application of novel cold binding technologies, would be capable of producing transportable pellets or briquettes with the potential to conform to international marketplace accepted chemical and physical parameters.

During 2018, various processing techniques were tested to achieve the target grade stipulated by the client. As part of the test work, pellets with varying binder compositions were tested for their reduction degradation index ("RDI") characteristics partly at a European steel mill and partly at a certified laboratory in Germany. The results of such tests were encouraging.

The steel industry is notoriously cautious in adopting new technologies so further work will be required for the full acceptance of this product. The Project Team are working with a leading British Institute to evaluate the technology with the objective of ascertaining steel industry acceptance of the product.

### **Risks relating to financing the Zanaga Project**

Any decision of the Jumelles board to proceed with construction of the mine and related infrastructure (or any variant such as a low capital cost, small scale start-up EPP Project) is itself dependent upon the ability of Jumelles to raise the necessary debt and equity to finance such construction and the initial operation of the mine (or any variant such as a low-cost small scale start-up). Jumelles may be unable to obtain debt and/or equity financing in the amounts required, in a timely manner, on favourable terms or at all and should this occur, it is highly likely to pose challenges to the proposed development of the Zanaga Project and the proposed timeline for its development. Moreover, the global credit environment may pose additional challenges to the ability of Jumelles to secure debt finance or to secure debt finance on acceptable terms, including as to rates of interest.

### **Risks relating to financing of the Company**

The Company will not generate any material income until the an operating stage of the Project has been constructed and mining and export of the iron ore has successfully commenced at commercial volumes. In the meantime the Company will continue to expend its cash reserves. Should the Company seek to raise additional finance, it may be unable to obtain debt and/or equity financing in the amounts required, in a timely manner, on favourable terms or at all.

If construction of the mine and related infrastructure proceeds (including any preparatory steps associated with the construction of the mine and related infrastructure) or any small scale start-up proceeds, and ZIOC elects to fund its pro rata equity share of construction capital expenditure, there is no certainty as to its ability to raise the required finance or the terms on which such finance may be available.

If ZIOC raises additional funds (including for the purpose of funding the construction of the Project or any part of the Project, including any small-scale start-up) through further issuances of securities, the holders of ordinary shares could suffer significant dilution, and any new securities that ZIOC issues could have rights, preferences and privileges superior to those of the holders of the ordinary shares.

If the Company fails to generate or obtain sufficient financial resources to develop and operate its business, this could materially and adversely affect the Company's business, results of operations, financial condition and prospects.

## **Risk relating to Ore Reserves estimation**

Ore Reserves estimates include diluting materials and allowances for losses, which may occur when the material is mined. Appropriate assessments and studies have been carried out, and include consideration of and modification by realistically assumed mining, metallurgical, economic, marketing, legal, environmental, social and governmental factors. These assessments demonstrate at the time of reporting that extraction could reasonably be justified. Ore Reserve estimates are by their nature imprecise and depend, to a certain extent, upon statistical inferences and assumptions which may ultimately prove unreliable. Estimated mineral reserves or mineral resources may also have to be recalculated based on changes in iron ore or other commodity prices, further exploration or assessment or development activity and/or actual production experience.

## **Host country related risks**

The operations of the Zanaga Project are located mainly in the RoC. These operations will be exposed to various levels of political, regulatory, economic, taxation, environmental and other risks and uncertainties. As in many other countries, these (varying) risks and uncertainties can include, but are not limited to: political, military or civil unrest; fluctuations in global economic and market conditions impacting on the economy; terrorism; hostage taking; extreme fluctuations in currency exchange rates; high rates of inflation; labour unrest; nationalisation; changes in taxation; illegal mining; restrictions on foreign exchange and repatriation. In addition, the RoC is an emerging market and, as a result, is generally subject to greater risks than in the case of more developed markets.

HIV/AIDS, malaria and other diseases are prevalent in the RoC and, accordingly, the workforce of the ZIOC group and of the Jumelles group will be exposed to the health risks associated with the country. The operating and financial results of such entities could be materially adversely affected by the loss of productivity and increased costs arising from any effect of HIV/AIDS, malaria and other diseases on such workforce and the population at large.

Weather conditions in the RoC can fluctuate severely. Rain storms, flooding and other adverse weather conditions are common and can severely disrupt transport in the region where the Jumelles group operates and other logistics on which the Jumelles group is dependent.

The host country related risks described above could be relevant both as regards day-to-day operations and the raising of debt and equity finance for the Project. The occurrence of such risks could have a material adverse effect on the business, prospects, financial condition and results of operations of the Company and/or the Jumelles group.

## **Risks relating to the Project's licences and the regulatory regime**

The Project's Mining Licence was granted in August 2014 and a Mining Convention has been entered into. With effect from 20 May 2016, the Zanaga Mining Convention has been promulgated as a law of the RoC, following ratification by the Parliament of the RoC and publication in the Official Gazette.

The holder of a mining licence is required to incorporate a Congolese company to be the operating entity and the Congolese Government is entitled to a free participatory interest in projects which are at the production phase. This participation cannot be less than 10%. Under the terms of the Mining Convention, there is a contingent statutory 10% free participatory interest in favour of the Government of the RoC as regards the mine operating company and a contingent option for the Government of the RoC to buy an additional 5% stake at market price.

The granting of required approvals, permits and consents may be withheld for lengthy periods, not given at all, or granted subject to conditions which the Jumelles group may not be able to meet or which may be costly to meet. As a result, the Jumelles group may incur additional costs, losses or lose revenue and its business, result of operations, financial condition and/or growth prospects may be materially adversely affected. Failure to obtain, renew, enforce or comply with one or more required approvals, permits and consents could have a material adverse effect on the business, prospects, financial condition and results of

operations of the Company and/or the Jumelles group. Mitigation of such risks is in part dependent upon the terms of the Mining Convention and compliance with its terms.

### **Transportation and other infrastructure**

The successful development of the Project (including any low-cost small scale start-up) depends on the existence of adequate infrastructure and the terms on which the Project can own, use or access such infrastructure. The region in which the Project is located is sparsely populated and difficult to access. Central to the Zanaga Project becoming a commercial mining operation is access to a transportation system through which it can transport future iron ore product to a port for onward export by sea. In order to achieve this it will be necessary to access a port at Pointe-Indienne, which is still to be constructed, or some other exit port in the case of a low-cost small scale start-up.

The nature and timing of construction of the proposed new port are still under discussion with the government of the RoC and other interested parties. In relation to the pipeline and Project facilities at the proposed new port and (to the extent needed) other infrastructure, the necessary permits, authorisations and access, usage or ownership rights have not yet been obtained.

Failure to construct the proposed pipeline and/or facilities at the proposed new port and/or other needed infrastructure or a failure to obtain access to and use of the proposed new port and/or other needed infrastructure or a failure to do this in an economically viable manner or in the required timescale could have a material adverse effect on the Project.

In the case of a low-cost small scale start-up, failure to put in place the necessary logistical requirements (including trucking, rail transportation and port facilities) and/or other needed infrastructure or a failure to obtain access to and use of the proposed logistical requirements or a failure to do this in an economically viable manner or in the required timescale could have a material adverse effect on the Project.

The availability of reliable and continuous delivery of sufficient quantity of power to the Project at an affordable price will also be a significant factor on the costs at which iron ore can be produced and transported to any proposed exit port and will impact on the economic viability of the Project.

Reliable and adequate infrastructure (including an outlet port, roads, bridges, power sources and water supplies) are important determinants which affect capital and operating costs and the ability of the Jumelles group to develop the Project, including any low-cost small scale start-up. Failure or delay in putting in place or accessing infrastructure needed for the development of the Zanaga Project could have a material adverse effect on the business, prospects, financial condition and results of operations of the Company and/or the Jumelles group.

### **Risks associated with access to land**

Pursuant to the laws of the RoC, mineral deposits are the property of the government with the ability to purchase surface rights. Generally speaking, the RoC has not had a history of native land claims being made against the state's title to land. There is no guarantee, however, that such claims will not occur in the future and, if made, such claims could have a deleterious effect on the progress of development of the Project and future production.

The Mining Convention envisages that the RoC will carry out a process to expropriate the land required by the Zanaga Project and place such land at the disposal of the holder of the Mining Licence in order to build the mine and the infrastructure, including the pipeline, required for the realisation of the Zanaga Project. This means that the rights of the Jumelles company which holds the Mining Licence to the relevant land will be subject to negotiation between the Congolese government and such company. Alternatively, if the land is not declared DUP (i.e. is expropriated by the State under its sovereign powers) then the Jumelles group will have to reach agreement with the local land owners which may be a more time consuming and costly process.

### **Risks relating to timing**

Any delays in (i) obtaining rights over and access to land and infrastructure; (ii) obtaining the necessary permits and authorisations; (iii) the construction or commissioning of the mine, the pipeline or facilities at an exit port or power transmission lines or other infrastructure; or (iv) negotiating the terms of access to the exit port and supply of power and other infrastructure; or (v) raising finance to fund the development of the mine and associated infrastructure, could prevent altogether or impede the development of the Zanaga Project, including the ability of the Zanaga Project to export its future iron ore products whether on the anticipated timelines or at projected volumes and costs or otherwise. Such delays or a failure to complete the proposed infrastructure or the terms of access to infrastructure or to do this in an economically viable manner, could have a material adverse effect on the business, results of operations, financial condition and prospects of the Company and/or the Jumelles group.

### **Environmental risks**

The operations and activities of the Zanaga Project are subject to potential risks and liabilities associated with the pollution of the environment and the disposal of waste products that may occur as a result of its mineral exploration, development and production, including damage to preservation areas, over-exploitation and accidental spills and leakages. Such potential liabilities include not only the obligation to remediate environmental damage and indemnify affected third parties, but also the imposition of court judgments, administrative penalties and criminal sanctions against the relevant entity and its employees and executive officers. Awareness of the need to comply with and enforcement of environmental laws and regulations continues to increase. Notwithstanding precautions taken by entities involved in the development of the Project, breaches of applicable environmental laws and regulations (whether inadvertent or not) or environmental pollution could materially and adversely affect the financial condition, business, prospects and results of operations of the Company and/or the Jumelles group.

### **Health and safety risks**

The Jumelles group is required to comply with a range of health and safety laws and regulations in connection with its business activities and will be required to comply with further laws and regulations if and when construction of the Project commences and the mine goes into operation. A violation of health and safety laws relating to the Project's operations, or a failure to comply with the instructions of the relevant health and safety authorities, could lead to, amongst other things, a temporary shutdown of all or a portion of the Project's operations or the imposition of costly compliance measures. If health and safety authorities require the Project to shut down all or a portion of its operations or to implement costly compliance measures, whether pursuant to applicable health and safety laws and regulations, or the more stringent enforcement of such laws and regulations, such measures could have a material adverse effect on the financial condition, business, prospects, reputation and results of operations of the Company and/or the Jumelles group.

### **Risks relating to third party claims**

Due to the nature of the operations to be undertaken in respect of the development of the Zanaga Project, there is a risk that substantial damage to property or injury to persons could be sustained during such development. Any such damage or injury could have a material adverse effect on the financial condition, business, prospects, reputation and results of operations of the Company and/or the Jumelles group.

### **Risks relating to outsourcing**

The 2014 FS envisages that certain aspects of the Zanaga Project will be carried out by third parties pursuant to contracts to be negotiated with such third parties. Any low-cost small scale start-up is also likely to involve the undertaking of various key elements of the Project by third parties. There is a risk that agreement might not be reached with such third parties or that the terms of any such agreement are more stringent than currently anticipated; this could adversely impact upon the Project and/or the proposed timescale for carrying out the Project.

### **Fluctuation in exchange rates**

The Jumelles group's functional and reporting currency is the U.S. dollar, and most of its in country costs are and will be denominated in CFA francs and Euros. Consequently, the Jumelles group must translate the CFA franc and Euro denominated assets and liabilities into U.S. dollars. To do so, non-U.S. dollar denominated monetary assets and liabilities are translated into U.S. dollars using the closing exchange rate at the reporting period end date. Consequently, increases or decreases in the value of the U.S. dollar versus the Euro (and consequently the CFA franc) and other foreign currencies may affect the Jumelles group's financial results, including its assets and liabilities in the Jumelles group's balance sheets. These factors will affect the financial results of the Company. In addition, ZIOC holds the majority of its funds in Pounds Sterling, and incurs the majority of its corporate costs in Pounds Sterling, but its contributions to funding the Jumelles group in 2018 and 2019 are calculated in U.S. dollars. Consequently, any fluctuation in exchange rates between Pounds Sterling versus the U.S. dollar or the Euro, could also adversely affect the financial results of the Company.

### **Cash resources**

The Company has limited cash resources. Although the Company has taken steps to conserve its cash resources, there is a risk that depletion of such cash resources will adversely affect the Company. Such depletion could result in further expenditure cuts being introduced by the Company, both in its internal and its external operations. Continuing volatile and uncertain economic conditions in the global iron ore market means that there can be no certainty as to when the Zanaga resource is likely to be developed. The difficult prevailing economic conditions as well as difficulties of monetising this resource given its location impact upon the ability of the Jumelles group to raise new finance for the Project as well as on the Company's ability to raise new finance for itself. The Company's existing cash resources will continue to come under increasing pressure unless a more benign investment and trading climate materialises in the foreseeable future which benefits the Project and the Company can take steps which result in an improvement of its financial position.



## Corporate Social Responsibility

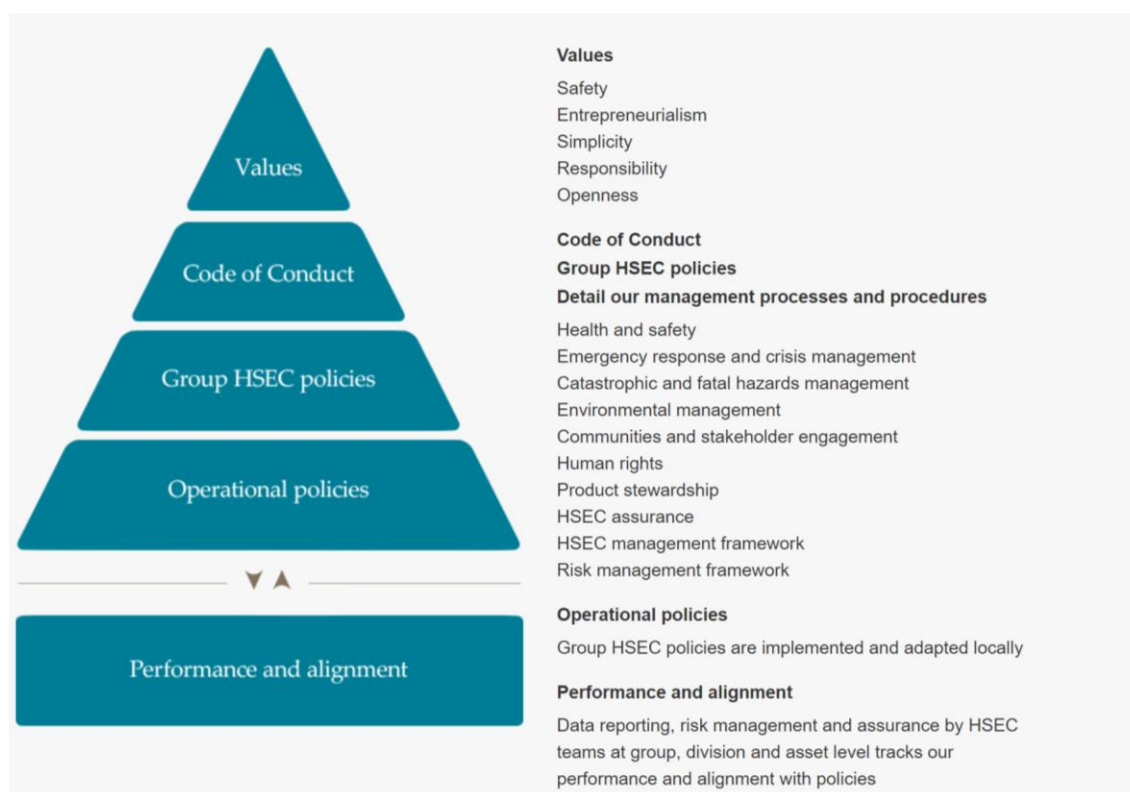
### Why is corporate social responsibility important to Zanaga?

Corporate social responsibility (“CSR”) is integral to the way that a company conducts its business. ZIOC’s licence to operate, access to finance, ability to attract and retain the right employees and ability to maintain good relations with all stakeholders are all closely linked to the manner in which ZIOC conducts its business.

From the early days of exploration, ZIOC developed a basic health and safety environmental and community (“HSEC”) management system based on the principles of ISO 14001 and the IFC’s Performance Standards for the extractive industry. This ensured a seamless transition to the Xstrata, and subsequently the Glencore group’s, systems when they took a managing stake in the Project.

### Glencore Group’s Policies

The Project’s approach to corporate responsibility is governed by Glencore group’s framework for HSEC management, which is based on the following structure:



Glencore’s values statement includes the following commitment with respect to corporate social responsibility:

### *Sustainability as standard*

We believe that our long-term success requires us to prioritise health and safety and environmental management as well as the welfare of all our workers, contribute to the development and well-being of the communities in which we work, and engage in open dialogue with our stakeholders.

### *Safety*

Our first priority in the workplace is to protect the health and well-being of all our workers. We take a proactive approach to health and safety; our goal is continuous improvement in the prevention of occupational disease and injuries.

### *Responsibility*

We recognise that our work can have an impact on our society and the environment. We care profoundly about our performance in compliance, environmental protection, human rights and health and safety.

### *Openness*

We value relationships and communication based on integrity, co-operation, transparency and mutual benefit, with our people, our customers, our suppliers, governments and society in general.

### **Management systems**

The Zanaga Project operates HSEC management systems to practice management systems that conform to the overall Glencore group's framework. The system is risk based to address all aspects of the Project's activities and includes regular reporting of developments and progress to ensure that management is able to monitor performance. A quarterly report is produced by the management team for the Project's managers, the shareholders of Jumelles and the RoC's state representatives. This details the Project's activities and incorporates information about its environmental, health and safety performance as well as details of local stakeholder and community engagement activities.

### **Key performance indicators**

- No Lost Time Injuries were recorded in 2018. This is an exceptional result. A total of 36 safety and Job Safety Analysis ("JSA") meetings were held during the year as part of the proactive programme and 9 awareness meetings under the themes: first aid kit, lifting and stretcher equipment, security lateral position (PLS), unconscious victim, hygiene principles, protection and warning, cholera, yellow fever and chikungunya
- No cases of medical and restricted work-related treatment in 2018 and no Medical Treatment Incident ("MTI") incidents were reported in 2018
- Health and safety is a natural priority for the Project. Every incident, including very minor ones, is recorded in a quarterly report written by the Project's management team and forwarded to state representatives and shareholders
- At the end of 2018 the Zanaga Project achieved a total of 2402 days without any accident
- No Restricted Work Injury was recorded during 2018, and no Lost Time Injuries occurred. This is an excellent result for the Project, even taking into consideration the reduction in activity at the mine site. The focus for the health and safety programme remains on the implementation of the Fatal Hazard Protocols and the 10 Golden Rules
- During 2018, the Project provided financial support to nurses working at Léfoutou health centre and to teachers' assistants via the village parents-and-teachers associations to cover the resource gap in nurse and teacher capacity at Léfoutou health centre and in the schools of the villages surrounding the Project
- Approximately US\$11,800 was spent as part of the Project's commitment to communities and to facilitate access to quality care for the populations present in the mining concession by paying an additional indemnity to the salaries paid by Council and Departmental management; contributing to the purchase of medicines in collaboration with the Departmental Health Department, and additional expenses including 2400 litres of diesel and an ambulance
- During 2018, 279 community communication meetings took place with approximately 600 local stakeholders
- Another HIV/AIDS awareness outreach campaign was undertaken in 2018 to increase the awareness of the HIV prevention programme. The HIV/AIDS awareness outreach campaign sessions were attended by 25 employees including contractors basic knowledge on HIV and AIDS, condoms, risk management and self-esteem

- MPD Congo took part in the World HIV Awareness day in the villages around the camp. As a result of this communication effort, over 3,163 condoms were distributed at the work place and in the eight villages within the project area over 2018
- CFA franc 1.8m (US\$3,000) was spent as part of the Project's commitments to provide access to the aeroplane runway at the Mbouyi aerodrome

### **The Project's Social and Environmental Impact Assessment**

In November 2017 the Zanaga Project was awarded an Environmental Permit ("Environmental Permit") by the Ministry of Environment of the RoC. The Environmental Permit covers the Zanaga Project's first phase of development pursuant to its Mining Licence granted in August 2014, as outlined in the Zanaga Project's Feasibility Study.

#### **Management of health and safety incidents**

- No Restricted Work Injury was recorded during 2018 and no Lost Time Injuries occurred. This is an excellent result for the Project, even taking into consideration the reduction in activity at the mine site. The focus for the health and safety programme remains on the implementation of the Fatal Hazard Protocols and the 10 Golden Rules.
- However, an accident was recorded at the level of the subcontractors: a driver of a local motobike was injured by a subcontractor's vehicle during a staff shuttle. The MPD team reacted quickly and the injured motorbike driver was transported by ambulance to the Guenin clinic in Pointe-Noire. The motorbike driver is now in good health

#### **Risk Management Training**

- During the course of 2018, a programme of risk identification and management training was rolled out at the exploration camp. This training is designed to improve the quality of the JSA exercises that are conducted prior to any work related tasks. It should also raise awareness of changes that can influence the importance/severity of a particular risk
- Awareness meetings have been held under the following themes: risks associated with the use of mobile phones at work, the role of traffic signs at work, the importance of medical certification, driving (speed limitation), STDs, ergonomics at work, work at height, the importance of safety analysis of a task, the effects of alcohol and drugs, musculoskeletal disorders (MSDs) of the upper and lower limbs, postures and gestures and Hazardous Substance Incompatibility Management
- Four Meetings of the health and safety committee took place under the following themes: the prevention of risks related to public works sites, Ebola virus disease general information and epidemiological situations, the risks related to the misuse of medicines including antibiotics, the theory and practice of fighting and preventing fire

#### **Supporting local health**

- In September 2015, the health centre at Lefoutou was opened and is now fully functional. MPD Congo equipped the health centre with medical equipment, medical supplies, gave a fully equipped ambulance, paid half of the salaries of the employees of the health centre every month during the whole year 2018, gave 200 litres of fuel every month and provided medical supplies for an amount of US\$5,000 for 2018
- The statistics for the year 2018 of the Lefoutou health center are very encouraging. Around 60 persons are treated at the health centre per month.

### **Supporting access to quality water**

From December 2016 to March 2018 MPD Congo realized a water drilling campaign in order to provide access to quality water for the local population. In total seven water drill holes were sunk and fully equipped with pumping facilities in the area of the project. The MPD team continues to maintain and repair the pump when necessary.

### **Supporting local education**

As in previous years, the Zanaga Project continues to support the schools and school teachers in the eight villages in the immediate vicinity of the Project camp at Lefoutou. This support has a number of different elements:

- Payment of 50% of the voluntary teachers' salaries for an amount of US\$6,500 for 2018
- Supply of furniture for school children in the eight villages that are within the project area of influence. The company's distribution included desks, , chairs pens, pencils, chalk, staplers, staples and other office supplies were provided to the eight school offices and the pupils of the eight schools of the villages within the project vicinity

### **Supporting agriculture development and environment**

- A partnership was signed with the NGO "ID Development" to create a grain shop at Bambama in order to help the farmers to have easy access to basic agriculture supplies and equipment. two storage containers were given by MPD Congo to the NGO
- The Inga project in partnership with Kew Gardens remains ongoing. This project aims to use local trees to fertilise the soil
- In November 2018 the official ceremony for the creation of Ogoué-Lékéti Park was held in Sibiti and MPD Congo provided support to transport the chief of villages and different key persons to assist with this ceremony. The support of the Ogoué-Lékéti Park is one of the biodiversity projects of MPD Congo.

### **Capacity building**

- The local team participated in several capacity building meetings under the following themes: compliance procedures, good practices and anti-corruption, 6 employees were certified after having followed the online training courses on the Code of Conduct, Anti-Corruption Training and 2018 annual compliance check
- The teams participated in other Capacity Building meetings under the following themes: local content in the Republic of Congo, the Environment Day under the theme "Fighting Plastic Pollution", World Water Day under the theme "Water and Employment" and World Forest Day (Forests and Trees Support) and Protect Us , providing clean air and water, safeguarding biodiversity and acting as a buffer against climate change, and World Health Day Safety at Work

# Corporate Governance

## Board of Directors

The Board of Directors currently comprises three Directors.

### ***Clifford Thomas Elphick***

#### **Non-Executive Chairman**

Clifford Elphick is the founder and CEO of Gem Diamonds Limited, a diamond mining company listed on the Main Market of the London Stock Exchange. Mr Elphick joined Anglo American Corporation in 1986 and was seconded to E Oppenheimer & Son as Harry Oppenheimer's personal assistant in 1988.

In 1990 he was appointed managing director of E Oppenheimer & Son, a position he held until his departure from the company in December 2004. During that time, Mr Elphick was also a director of Central Holdings, Anglo American and DB Investments. Following the buy-out of De Beers in 2000, Mr Elphick served on the De Beers executive committee until 2004. Mr Elphick formed Gem Diamonds Limited in July 2005.

### ***Clinton James Dines***

#### **Non-Executive Director**

Clinton Dines has been involved in business in China since 1980, including senior positions with the Jardine Matheson Group, Santa Fe Transport Group and Asia Securities Venture Capital. In 1988 he joined BHP as their senior executive in China and following the merger of BHP and Billiton in 2001, he became president of BHP Billiton China, a position from which he retired in 2009.

### ***Jonathan Andrew Velloza***

#### **Non-Executive Director**

Jonathan Velloza has a wealth of experience in the mining industry, having previously acted as Deputy CEO and COO of Gem Diamonds Ltd. Prior to this he was with BHP Western Australia Iron Ore where he was General Manager at Mining Area C, the largest iron ore mine in the BHP portfolio, from 2013 to 2015, leading a number of successful operational efficiency programmes. He has also acted as a Senior Exploration Manager in Zambia and Chile for BHP from 2011-2013, Operations Manager at AngloGold Ashanti from 2009-2010 and held numerous managerial positions at De Beers from 2001-2009.

## **Directors' Report**

The current Directors of the Company (Clifford Elphick, Clinton Dines and Jonathan Velloza), who were members of the Board at the time of approving the Directors' Report, hereby present their 2018 Annual Report to the shareholders of Zanaga Iron Ore Company Limited, together with the full financial statements for the year ended 31 December 2018.

### **Status and activities**

The Company is a British Virgin Islands Business company registered under the Territory of the British Virgin Islands ("BVI"), BVI Business Companies Act, 2004. Formation, changes and project ownership history:

- The Company was incorporated on 19 November 2009 with the name Jumelles Holdings Limited.
- On 1 October 2010, the Company changed its name to Zanaga Iron Ore Company Limited.
- On 18 November 2010, the Company's share capital was admitted to trading on the AIM Market ("AIM") of the London Stock Exchange ("Admission").
- At Admission, the Company held 100% of the Project through Jumelles which in turn owns 100% of the Project subject to the minimum 10% free carried interest of the Government of the RoC.
- Following both pre and post Admission development funding received from Xstrata, in 2011, Xstrata exercised its Call Option (the "Call Option") and acquired a 50% plus one share interest in the Project through Jumelles. The Company retains a 50% less one share interest in the Project through Jumelles ("Minority Stake").
- Following the merger of the Glencore group and Xstrata in 2013 the 50% plus one share shareholder has become Glencore.

The Company's long-term objective is to maximise the value of the Company's sole asset – its Minority Stake in Jumelles – and the Project which is currently focused on managing, developing and constructing a world-class iron ore asset capable of mining, processing, transporting and exporting iron ore at full production.

### **Activities and Business Review**

The Company's performance, activities during the year and future prospects are discussed in the Company Profile, Chairman's Statement and in the Business Review as set out on pages 2 - 13.

### **The financial risk profile**

The Company's financial instruments comprise cash and various items such as debtors and creditors that arise directly from the Company's operations. The main risks that the Company faces are summarised on pages 18 - 23. Further details are given in Note 13 to the financial statements.

The risks and uncertainties facing the Company are regularly reviewed by the Board and management.

### **Dividends**

No dividends were declared or paid during the year under review (2017: US\$nil).

### **Future funding requirements and going concern basis of preparation**

The Directors have prepared the accounts on a going concern basis. At 31 December 2018 the Company had cash reserves of US\$2.0m.

Similar to the Funding Agreement for 2018 project expenditure, Glencore and ZIOC have agreed a Funding Agreement to fund the 2019 Project Work Programme and Budget for the Project of US\$1.3m plus US\$0.13m of discretionary spend dependent on certain workstreams requiring capital. After taking in savings arising from previous years, ZIOC has agreed to contribute towards such work programme and budget an amount comprising US\$0.65m plus 49.99% of all discretionary items approved jointly with Glencore. Ignoring any

entitlement to savings, ZIOC's potential contribution to the Project in 2019 under the 2019 Funding Agreement is US\$0.73m in total. In the event that a decision is taken to allocate capital to more extensive product tests or study work additional funding may be required.

The Company's current cash reserves are sufficient to support both the Company's own operating costs for the next 12 months and the agreed contribution to the Project under the Funding Agreement for 2019 referred to in the previous paragraph.

The Company continues to review the costs of its operational activities with a view to conserving its cash resources. As part of such ongoing review, the Directors and management have indicated to the Company that they will assist the cash preservation activities of the Company, by re-negotiating contractual arrangements so as to provide for payments of fees in shares and/or options in lieu of cash. If this course of action is determined to be necessary, it is expected that this will take effect from the beginning of Q4 2019.

In common with many exploration and development companies in the mining sector, the Company raises funding in phases as its project develops. As the Zanaga Project is still in the development stage and the cash resources of the Company are diminishing, the Company recognises that steps will need to be taken to raise additional investment either at the corporate level or at the Zanaga Project level, or a combination of the two. The raising of additional funds is linked to the progress that is made in relation to the development of the Zanaga Project. The initiatives that are being undertaken in relation to the development of the Zanaga Project have been described earlier in this report. There are a range of options for raising funds which the Company is pursuing. It is recognised that there is a risk that the Company may be unable to obtain debt and/or equity financing in the amounts required, in a timely manner, on favourable terms or at all and should this occur, it is highly likely to pose challenges for the Company and could adversely have an impact upon the proposed development of the Zanaga Project and the proposed timeline for its development.

If construction of the mine and related infrastructure proceeds (including any preparatory steps associated with the construction of the mine and related infrastructure), and the Company elects to fund its pro rata equity share of construction capital expenditure, it will need to raise further funds. There is no certainty as to the Company's ability to raise the required finance or the terms on which such finance may be available.

In addition, any decision of the Jumelles Board to proceed with construction of the mine and related infrastructure (or any variant such as a low-cost small scale start-up) is itself dependent upon the ability of Jumelles to raise the necessary debt and equity to finance such construction and the initial operation of the mine. Jumelles itself may be unable to obtain debt and/or equity financing in the amounts required, in a timely manner, on favourable terms or at all and should this occur, it is highly likely to pose challenges to the proposed development of the Zanaga Project and the proposed timeline for its development.

The Company still believes that once the proposed staged development of the Zanaga Project occurs, the Project offers high grade ore at competitive cost, thereby offering an attractive rate of return, at an acceptable level of risk. However, in order to carry out such staged development, it is still the case that substantial capital expenditure will be required both at the prospective mine site and in respect of transportation and other associated infrastructure and for working capital. Revenues from mining are dependent upon such development being financed and taking place. Despite the positive current state of the global iron ore market there can be no certainty as to when Jumelles and the Company are able to raise new finance for the staged development of the Project or any small-scale start-up.

At a time when the staged development of the Project takes place (or, if viable, a small-scale start-up takes place) the Company will need to obtain additional funding should it decide to elect to fund its share of any such development of the mine. If such staged development continues to be deferred due to unfavourable market conditions, the Company will need at the appropriate time to explore options to raise additional funding, pending the staged development (or, if viable, a small-scale start-up) taking place.

At present, taking into account the judgments, estimates and other matters discussed above, the Company has sufficient financial resources to continue in operational existence for the foreseeable future. For these reasons, the financial statements of the Company have been prepared on a going concern basis.

## **Brexit considerations**

The Group does not envisage other implications resulting from Brexit other than the FX impact described in Note 1

## **Directors**

Members of the Board who served as Directors throughout or during part of 2018 are Clifford Elphick, Johnny Velloza (appointed 6 September 2018), Michael Haworth (resigned 5 September 2018) and Clinton Dines.

Biographical details of the Directors and the period of each directorship are shown on pages 28 and 33. Details of Board meetings and Directors' attendance at Board meetings are laid out on pages 33-34.

The Directors' interests in the ordinary shares of the Company as at 31 December 2018 and at the date of signing of this Annual Report are set out on pages 38 and 39 in the Remuneration Report.

## **Directors' remuneration**

A Directors' Remuneration Report, which shareholders will be asked to approve at the Annual General Meeting, can be found on pages 37 - 39.

## **Company Secretary**

Elysium Fund Management Limited is responsible for the provision of company secretarial and related administrative services.

## **Indemnities and insurance**

The Company maintains directors' and officers' liability insurance cover, to cover claims made against directors and officers of the Company, arising out of actions taken in relation to the Company's business and its Admission.

## **Corporate governance**

Following the Company's Admission to AIM in November 2010, whilst the Company was under no obligation to apply the Financial Reporting Council's UK Corporate Governance Code (the "Code") the Directors took measures to apply the principles of the Code so far as is appropriate and practical having regard to the size and nature of the Company. The Directors have taken the same approach as regards the application of the recent reissues of the Code. A report on corporate governance can be found on pages 33 - 36.

## **Corporate responsibility**

The Company places the highest priority on the health and safety of its employees, respect for the environment and active engagement with the local communities in which it operates. A report on corporate responsibility can be found on pages 24 - 27.

## **Substantial share interests**

According to the Company's shareholder register, as at 31 December 2018, the following interests of 3% or more of the issued ordinary share capital had been notified to the Company:

Funds managed by:	Number of shares	% of share capital
Guava Minerals Limited <sup>1</sup>	80,252,592	28.34%
Keith Everitt	17,022,062	6.01%
Leganes Ltd	16,971,041	5.99%
AI Holdings Limited	8,706,621	3.07%

As at 21 May 2019 the following table sets out interests of 3% or more as notified to the Company:



Funds managed by:	Number of shares	% of share capital
Guava Minerals Limited <sup>1</sup>	80,252,592	28.34%
PKC Capital Limited	16,971,041	5.99%
Julian Higgins	11,216,980	3.96%
AI Holdings Limited	8,706,621	3.07%

*1. Clifford Elphick is indirectly interested in these ordinary shares by virtue of his interest as a potential beneficiary in a discretionary trust, which has an indirect interest in these ordinary shares.*

### **Policy on payment to suppliers**

Amounts due to suppliers and service providers are settled promptly within the terms of the payment, except in cases of dispute.

### **Material contracts**

The Company's material contracts are with Glencore (see Note 1 of the Financial Statements on pages 50 - 53 for more details), Liberum Capital Limited, which acts as Nominated Adviser and joint Corporate Broker, Computershare Investor Services (BVI) Limited, which acts as Registrar and Hyposwiss Private Bank Geneva SA, the Company's banker.

### **Legal proceedings**

The Company is not engaged in any litigation or claim of material importance, nor, so far as the Directors are aware, is any litigation or claim of material importance pending or threatened against the Company.

### **Disclosure of information to Auditors**

The Directors who held office at the date of approval of this Directors' Report confirm that, so far as they are each aware, there is no relevant audit information of which the Company's Auditor is unaware and each Director has taken all the steps that he ought to have taken as a Director to make himself aware of any relevant audit information and to establish that the Company's Auditor is aware of that information.

By order of the Board



**Clifford Elphick**

Non-Executive Director

Ground Floor, Coastal Building  
Wickham's Cay II  
Road Town P.O. Box 2136  
Carrot Bay VG1130 Tortola  
British Virgin Islands  
26 June 2019

## Corporate Governance Report

The Directors recognise the importance of sound corporate governance and the guidelines set out in the UK Corporate Governance Code (the “Code”). Currently the Directors have taken measures to apply the principles of the Code so far as is appropriate and practical having regard to the size and nature of the Company.

### Board of Directors

As at 31 December 2018, the board was led by a Non-Executive Chairman, Clifford Elphick. The Board consisted of three Directors throughout the year, all of whom were Non-Executive Directors and held office for the duration of the year. Michael Haworth ceased to be a Director on 5 September 2018 and Jonathan Velloza was appointed Director on 6 September 2018.

Further details of the Directors and length of directorships are included in the table below.

Name	Nationality	Age	Position	Date of appointment
Clifford Thomas Elphick	South African	58	Non-Executive Chairman	26 November 2009
Jonathan Andrew Velloza	South African	48	Non-Executive Director	6 September 2018
Clinton James Dines	Australian	61	Non-Executive Director	16 August 2010
Michael John Haworth	British	53	Non-Executive Director	26 November 2009

The biographical profiles of the Directors, which demonstrate their skills and experience, can be found on page 28.

Under the Code, none of the Non-Executive Directors that served during the 2018 financial year would be viewed as independent. However, although Clinton Dines would not be viewed as independent under the Code by virtue of the shares awarded to him under the Company’s long-term share incentive scheme, the Directors believe that independence is not a state of mind that can be measured objectively and, given the character, judgement and decision making process of the individual concerned, the Directors believe that Clinton Dines can be considered independent.

Given the current size and level of operational activity of the Company the Board currently considers its composition to be appropriate. The Company reviews the independence of the Directors annually and all new appointments will be made after consideration of the independence of the Company’s Directors.

### Election of Directors

As per the Company’s Articles of Association, one third of Directors are subject to retirement at each annual general meeting of the Company (“AGM”) by rotation. In addition, any Director who would not otherwise be required to retire shall retire by rotation at the third AGM after his last appointment or reappointment. A retiring Director shall be eligible for re-election unless he has indicated that he does not wish to stand for re-election.

### Attendance at Board meetings

The Company aims to hold a number of Board meetings per year, in order that the Directors are able to review the exploration and development progress of the Project and all other important issues so as to ensure control is maintained over the Company’s affairs. In addition, between these formal meetings there is regular contact between the members of the Board as well as with the Company’s consultants, management and the Nominated Adviser and Corporate Broker (details of which can be found on page 92). The Directors are kept fully informed of investment, financial and other matters that are relevant to the business of the Company and that should be brought to the attention of the Directors. The Directors also have access to the Company Secretary and, where necessary in the furtherance of their duties, to independent professional advice at the expense of the Company.

The Board considers agenda items laid out in the notice and agenda, which are formally circulated to the Board in advance of a meeting as part of the Board papers and, therefore, Directors may request any agenda items to be added that they consider appropriate for Board discussion. Additionally, each Director is required to inform the Board of any potential or actual conflicts of interest prior to Board discussion.

The quorum for a Board meeting is two but attendance by all Directors at each meeting is strongly encouraged. Whilst Directors try to arrange their schedules accordingly, non-attendance is unavoidable in certain circumstances. During 2018, eight Board meetings were held and two meetings of a sub-committee of the Board. The table below details the number of Board meetings.

	Total	Board meetings	Committee meetings
Clifford Thomas Elphick	10	8	2
Michael John Haworth	9	7	2
Jonathan Andrew Velloza	1	1	0
Clinton James Dines	8	8	0

Apart from the regular Board meetings, additional meetings will be arranged when necessary to review strategy, planning, operational, financial performance, risk, capital expenditure, human resources and environmental management.

### **Boardroom diversity**

Given the level of uncertainty in iron ore markets, and the need to maintain a low cost base, the Company intends to maintain the board composition currently in place. In the event that iron ore markets improve and the Company is able to attract new financing then the diversity of the Board will be addressed through the appointment of new Board members.

### **Directors' shareholdings and dealings**

The interests of the Directors in the share capital of the Company are disclosed in the Directors' Remuneration Report on pages 37 - 39.

The Directors comply with Rule 21 of the AIM Rules for Companies relating to Directors' dealings and take all reasonable steps to ensure compliance by the Company's applicable employees. The Company has adopted and operates a share dealing code for Directors and employees in accordance with the AIM Rules for this purpose.

### **Board committees**

As part of the process of streamlining the operations of the Company and to reduce costs, the committees of the Board have been discontinued. This included the Audit Committee and the Remuneration Committee. As these committees have now been discontinued, the tasks previously undertaken by these committees have now reverted to the Board. Consequently, the Board's responsibilities include the monitoring of the integrity of the financial statements of the Company, including its annual and half yearly reports, interim management statements, preliminary results' announcements and any other formal announcement relating to its financial performance. The Board is also responsible for monitoring the activities of the executive management.

### **External Auditor**

The Board is now also responsible for managing the relationship with Deloitte LLP ("Company's Auditors"), including approval of their remuneration and terms of engagement. It should be mentioned that Deloitte also audits the accounts of Jumelles.

The Board has continued to be satisfied with the independence and effectiveness of the Company's Auditors and does not at this stage consider it is necessary to require an independent tender process. The

Board will consider this again following publication of the 2018 Annual Report and will keep this under ongoing review.

The Company's Auditor is permitted to provide non-audit services that are not in conflict with Company's Auditor's independence and objectivity. The Board is responsible for ensuring that any non-audit services do not jeopardise this independence and objectivity and given the size and stage of development of the Company do this on a case by case basis.

Auditor's remuneration for the Company's Auditor, Deloitte LLP, for audit services for the year 2018 are US\$62,000 ( 2017: US\$64,000), and US\$nil for non-audit services ( 2017: US\$nil).

### **Internal control and risk management**

The Directors have overall responsibility for establishing and maintaining the Company's system of internal control and risk management systems. Internal control systems are designed to meet the particular needs of the Company and the risks to which it is exposed, and, by their very nature, provide reasonable, but not absolute, assurance against material misstatement or loss. The key procedures which have been established to provide effective internal controls are as follows:

- Elysium Fund Management Limited ("Company Secretary") is responsible for the provision of company secretarial duties. The Directors of the Company clearly define the duties and responsibilities of their agents and advisors in the terms of their contracts.
- The Board reviews financial information produced by the administrator on a regular basis.
- The Board monitors the performance of the Company's service providers and their obligations under their agreements with the Company.
- All expenditure is subject to approval in accordance with the Company's accounting policies, procedures and Delegated Financial Authority.

Up until the exercise of the Call Option in February 2011, the Board ensured that appropriate internal controls and systems were in place for its investment in its associate, Jumelles, through reviewing risks, delegating financial authorities, employing staff with relevant experience, segregating duties and outsourcing the accounting service. Since the exercise of the Call Option in February 2011 the Jumelles group is included in the Glencore group's internal audit programme.

The Company does not have an internal audit department. Due to the size and nature of the Company it is not felt that there is at this stage a need for the Company to have an internal audit facility. The Board will continue to keep this under ongoing review.

A review of business risks was carried out during 2018 and subsequently. A summary of the principal risks facing the Company can be found on pages 18 – 23.

### **Remuneration Committee**

In view of the discontinuance of the Remuneration Committee, the Remuneration Report on pages 37 – 39 has been produced under the auspices of the Board.

The terms of reference which the Board follows in relation to remuneration can be found on the Company's website at [www.zanagairon.com](http://www.zanagairon.com).

**Relationships with shareholders**

The Code encourages dialogue with institutional shareholders based on the mutual understanding of objectives. The Directors are always available to enter into dialogue with shareholders. All ordinary shareholders will have the opportunity, and indeed are encouraged, to attend and vote at the AGM during which the members of the Board, the Nominated Advisor and Corporate Broker will be available to discuss issues affecting the Company. The Board stays abreast of shareholders' views via regular updates from its Nominated Advisor and Corporate Broker as to meetings it may have held with shareholders.

## Remuneration report

This report to shareholders for the year ended 31 December 2018 sets out the policies under which Non-Executive Directors are remunerated.

As an AIM listed company this report is not intended to comply with the 2013 regulations applicable to quoted companies covered by the scope of those regulations. Whilst under no obligation to provide a remuneration report, the Board believes it appropriate to continue to do so, and, as a matter of best practice, this report will be subject to an advisory shareholder vote at the AGM.

### Remuneration policy terms of reference

The terms of reference for the Company's remuneration policy, which are reviewed annually, can be found on the Company's website at [www.zanagairon.com](http://www.zanagairon.com).

The key objectives of the remuneration policy are to:

- ensure that members of the executive management of the Company are provided with appropriate incentives to encourage enhanced performance and are, in a fair and responsible manner, rewarded for their individual contributions to the success of the Company;
- review the ongoing appropriateness and relevance of the remuneration policy; and
- approve the design of, and determine targets for, any performance related pay schemes operated by the Company and approve the total annual payments made under such schemes.

The main responsibilities of the Board in relation to remuneration are to:

- determine the framework or broad policy for the remuneration of the Company's Chairman of the Board, the Company Secretary and such other members of the executive management as it is designated to consider. The remuneration of Non-Executive Directors shall be a matter for the Chairman of the Board. No Director or manager shall be involved in any decisions as to their own remuneration;
- review the ongoing appropriateness and relevance of the remuneration policy;
- approve the design of, and determine targets for, any performance related pay schemes operated by the Company and approve the total annual payments made under such schemes; and
- review the design of all share incentive plans for approval by the Board. For any such plans, determine each year whether awards will be made, and if so, the overall amount of such awards, the individual awards to senior executives and the performance targets to be used.

### Remuneration policy

The Board, as a whole, establishes the remuneration policy.

### Advice

During the year the Company received legal services from its solicitors, the independent law firm Bryan Cave Leighton Paisner LLP.

### Service contracts and notice periods

The Board consisted of three Directors at the year end, all of whom were Non-Executive Directors for the duration of the year. Further details of the Directors and length of directorships are reflected in the table set out on page 33 in the Corporate Governance section of this Report.

All the Directors are appointed for an indefinite period subject to three months' notice by either party at any time and subject to the Company's Articles of Association.

The service contracts for the Directors are available for inspection by members during normal business hours, at the Company's registered office.

### Non-Executive Directors' remuneration package

The Non-Executive Directors (other than the Chairman) shall be paid by way of fees for their services a sum not exceeding an aggregate of £500,000 per annum or such larger amount as the Company may by resolution of its shareholders determine.

The annual remuneration package, in Sterling, of the Non-Executive Directors who served during the year is detailed below:

Audited	Annual fee	Annual fee Audit Committee	Annual fee HSSE Committee	Annual fee Remuneration Committee	Total annual fee
	£000	£000	£000	£000	£000
Non-Executive Director					
Clifford Elphick	75.0	—	4.0	4.0	83.0
Clinton Dines	50.0	—	7.5	—	57.5
Michael Haworth	39.3	—	—	—	39.3
Jonathan Velloza	—	—	—	—	—

*Note : Whilst the Audit Committee, Health, Safety, Social and Environmental Committee ("HSSE Committee") and Remuneration Committee have been dissolved, the functions and responsibilities still remain and are discharged by the Board; accordingly the fee paid reflects these ongoing duties.*

No Director is entitled to any bonus, pension or other benefits (save as disclosed above or in relation to the long-term incentive scheme as set out below). In the event of termination of appointment, howsoever caused, each Director has agreed that they will not be entitled to any compensation for loss of office as a Director of the Company.

### Directors' shareholdings

The interests of the Directors who served during the year to 31 December 2018 in the share capital of the Company, all of which are beneficial unless otherwise stated, are as follows:

Audited	31 December 2018		31 December 2017	
	Number of shares	% of issued share capital	Number of shares	% of issued share capital
Directors (Share options status 31 December 2018)				
Clifford Elphick <sup>1</sup>	88,730,397	31.83%	88,730,397	31.83%
Michael Haworth <sup>2</sup>	13,629,127	4.89%	13,629,127	4.89%
Clinton Dines <sup>3</sup>	632,330	0.22%	632,330	0.22%
Jonathan Velloza	214,285	0.08%	—	—

1. *Clifford Elphick is indirectly interested in these ordinary shares, which are registered in the name of Guava Minerals Limited, by virtue of his interest as a potential beneficiary in a discretionary trust which has an indirect interest in those ordinary shares.*
2. *Michael Haworth was indirectly interested in 13,629,127 ordinary shares, by virtue of his interest as a potential beneficiary in a discretionary trust which owned those 13,629,127 ordinary shares.*
3. *Comprising 430,483 ordinary shares and 201,847 ordinary shares over which options have been granted.*

Since 31 December 2018, there have been no changes in the current Directors' interests up to the time of writing of this report. As mentioned elsewhere in this report, Michael Haworth ceased to be a director on 5 September 2018.

## Remuneration for the year to 31 December 2018

The emoluments for the Directors who served for the year to 31 December 2018 can be found below:

<b>Audited</b>	<b>Director fee 2018 £000</b>	<b>Other emoluments 2018 £000</b>	<b>Total emoluments 2018 £000</b>	<b>Total emoluments 2017 £000</b>
Director				
Clifford Elphick	83.0	–	83.0	83.0
Clinton Dines	57.5	–	57.5	57.5
Michael Haworth	39.3	–	39.3	59.0
Jonathan Velloza	-	-	-	
<b>Total in £</b>	<b>179.8</b>	<b>–</b>	<b>179.8</b>	<b>199.5</b>
	<b>US\$000</b>	<b>US\$000</b>	<b>US\$000</b>	<b>US\$000</b>
<b>Total in US\$</b>	<b>234.3</b>	<b>–</b>	<b>234.3</b>	<b>257.63</b>

## LTIP

At its Admission in 2010, the Company approved and implemented a split interest LTIP scheme in order to recruit and retain key officers and employees of the Company and the Company's associate. In recognition of the achievement of key corporate and project milestones since 2012, and to incentivise key employees and consultants to achieve certain new performance targets, the Board approved the grant of 9,027,274 standard share options outside the split interest LTIP scheme to certain Directors, key employees and consultants to the Company.

The 2010 split interest LTIP scheme was discontinued in Q4 2017 following the exercise of all outstanding options by participants in this scheme. These options were exercised over shares which had already been issued in 2010 and which were jointly owned by the two discretionary trusts ("Trusts") established in 2010 for the benefit of current and former employees and officeholders and the relevant participant. The trustee of the Trusts throughout 2017 was Geneva Management Group (BVI) Limited. Upon the exercise of the options, the participants became the sole owner of the shares in which he was interested.

As regards the 9,027,274 standard share options outside the split interest LTIP scheme referred to above, 4,424,503 of these options were exercised in Q1 2018. Consequently, currently there are 4,602,771 standard share options which have not been exercised.

The following is a summary of awards made to Directors of the Company:

<b>Audited</b>	<b>Award Year</b>	<b>Number of shares</b>	<b>Exercise Price</b>	<b>Market price at 31 Dec 2016</b>	<b>Highest and lowest market price in year</b>	<b>Expiry date</b>	<b>Number vested at 31 Dec 2016</b>
Director							
Clinton Dines	2014	201,847	£0.0001	£0.06725	£0.07875-0.01425	29 July 2024	134,566

The total charge to the profit and loss account for the awards made to the Directors in the year to 31 December 2018 was US\$nil (2017: US\$nil). Further details of the LTIP can be found in Note 11 to the Financial Statements on pages 61 – 63.

By order of the Board

**Clifford Elphick**  
Director

26 June 2019



## **Statement of Directors' Responsibilities**

The Directors of Zanaga Iron Ore Company Limited (the "Directors") are responsible for preparing the annual report and group's financial statements, which are intended by them to give a true and fair view of the state of affairs of the group and of its profit and loss for the period.

The Directors are required by the AIM Rules of the London Stock Exchange (the "AIM Rules") to prepare the group's financial statements in accordance with International Financial Reporting Standards ("IFRSs") as adopted by the EU.

In preparing the group financial statements, the Directors have:

- selected suitable accounting policies and then applied them consistently;
- made judgements and estimates that are reasonable and prudent;
- stated whether they have been prepared in accordance with IFRSs as adopted by the EU; and
- prepared the financial statements on the going concern basis unless it is inappropriate to presume that the group and the Parent Company will continue in business.

The Directors have general responsibility for taking such steps as are reasonably open to them to safeguard the assets of the Company and to prevent and detect fraud and other irregularities.

The Directors have decided to prepare voluntarily a Directors' Remuneration Report, which can be found on page 37 - 39, in accordance with Schedule 8 to The Large and Medium-sized Companies and Groups (Accounts and Reports) Regulations 2008 made under the Companies Act 2006, as if those requirements were to apply to the Company.

## INDEPENDENT AUDITOR'S REPORT TO THE MEMBERS OF ZANAGA IRON ORE COMPANY LIMITED

### Report on the audit of the financial statements

#### Opinion

**In our opinion the financial statements of Zanaga Iron Ore Company Limited (the 'Group'):**

- **give a true and fair view of the state of the Group's affairs as at 31 December 2018 and of its loss for the year then ended;**
- **have been properly prepared in accordance with International Financial Reporting Standards (IFRSs) as adopted by the European Union**

We have audited the financial statements which comprise:

- the consolidated statement of comprehensive income;
- the consolidated statement of financial position;
- the consolidated statement of changes in equity;
- the consolidated cash flow statement; and
- the related notes 1 to 16

The financial reporting framework that has been applied in their preparation is the International Financial Reporting Standards as adopted by the European Union.

#### 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 Financial Reporting Council's (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.

#### Summary of our audit approach

<b>Key audit matters</b>	The key audit matters that we identified in the current year were: <ul style="list-style-type: none"><li>• The risk of impairment of the investment in associate</li><li>• Going concern basis of accounting</li></ul>
<b>Materiality</b>	The materiality that we used in the current year was US\$ 1,181,000 which was determined on the basis of net assets.
<b>Scoping</b>	Our audit scope included both the Zanaga Iron Ore Company Limited parent and its 100% owned subsidiary, Zanaga UK Services Limited.

#### Key audit matters

Key audit matters are those matters that, in our professional judgement, 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. These matters included 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. In addition to the matter described in the material uncertainty relating to going concern section, we have determined the matters described below to be the key audit matters to be communicated in our report.

## Impairment of the investment in associate

### Key audit matter description



The carrying value of the investment in associate was US\$ 37.5 million as at 31 December 2018 as disclosed in note 6b. The investment relates solely to the Group's interest in Jumelles Limited which controls the Zanaga Iron Ore Project in the Republic of the Congo.

The carrying value of the investment in associate is considered a key audit matter on the basis that:

- The balance is highly material to the consolidated statement of financial position, comprising 95% of the Group's net assets; and
- The evaluation of the carrying value and any related impairment each reporting period involves significant management estimates that could result in material changes to the financial statements were those estimates to change.

The volatility of expected future prices of commodities (iron ore), foreign exchange rates, production levels, operating costs, discount rates and macro-economic developments require management to closely monitor the associate's expected future profitability and therefore the investment's carrying value.

Management completes an impairment review annually. There were no impairments recognised in the current year. The outcome of impairment assessments could vary significantly were different assumptions applied. Refer to "Carrying value of investment in associate" within Note 3 *Critical accounting estimates, assumptions and judgements*.

### How the scope of our audit responded to the key audit matter



We reviewed management's assessment of impairment risk and their assessment of the indicators of impairment and challenged the significant assumptions used.

We sought to identify additional potential indicators of impairment through our review of operational performance and financial results as well as the impact of any significant regulatory changes.

We compared the recorded carrying value to the Group's share of the associate's net assets. We also reviewed the work of the auditor of Jumelles Limited on the risk of impairment of the underlying Zanaga Iron Ore Project exploration and evaluation assets to understand the challenge applied to the significant assumptions used in the impairment model.

We assessed the adequacy of impairment related disclosures in the financial statements, including the key assumptions used and the sensitivity of the financial statements to these assumptions.

### Key observations



Based on the results of our testing, we concluded that management's assessment of impairment indicators was appropriate.

We found management's disclosures on key assumptions and impairment sensitivities to be appropriate.



## Going concern basis of accounting

### Key audit matter description



Management has assessed that it is appropriate to adopt the going concern basis of accounting in preparing the financial statements. The Group's cashflow forecast, incorporating their cash preservation plan, indicates sufficient liquidity will exist for at least twelve months from the date of approval of the financial statements. The Group continues to record losses and a diminishing cash balance whilst the Zanaga Iron Ore Project remains in the development phase. We considered the going concern basis of accounting to be a key audit matter on the basis that:

- The Group's sole activity is its investment in the Zanaga Iron Ore Project via Jumelles Limited, and the Group continues to recognise its share of the Project's losses and its contributions to the Project; and

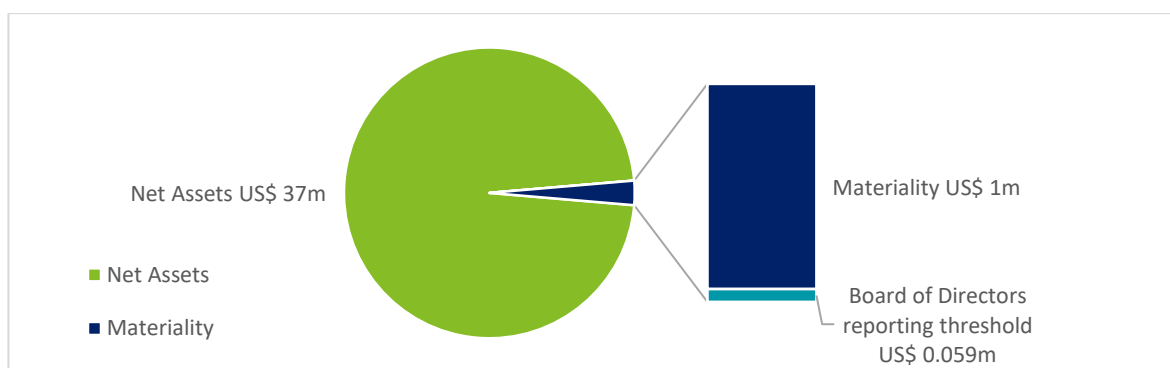
	<ul style="list-style-type: none"> <li>• The Group will be required to engage in financing in the future to move the Zanaga Iron Ore Project from the development phase to the construction phase; and</li> <li>• There is significant judgement required by management surrounding the use of the going concern basis.</li> </ul>
<b>How the scope of our audit responded to the key audit matter</b> 	<p>We reviewed the historical accuracy of cash flow forecasts prepared by management and challenged their assumptions used.</p> <p>We reviewed the projected cash flow forecasts, and challenged the significant assumptions, including the budgeted expenditures projected over the next 12-months.</p> <p>We have reviewed management's assessment of future fundraising opportunities to understand the options available to the Group as at the time of the audit and those expected into the future.</p> <p>We have reviewed management and the Directors' willingness to re-negotiate contractual terms to be remunerated in shares or share options in lieu of cash (the "cash preservation plan").</p>
<b>Key observations</b> 	<p>Based on the results of our testing, we concluded that management's continued application of the going concern basis of accounting was appropriate.</p> <p>We found management's disclosures on key assumptions surrounding the going concern basis, as disclosed in Note 1, to be appropriate.</p>

### Our application of materiality

We define materiality as the magnitude of misstatement in the financial statements that makes it probable that the economic decisions of a reasonably knowledgeable person would be changed or influenced. We use materiality both in planning the scope of our audit work and in evaluating the results of our work.

Based on our professional judgement, we determined materiality for the financial statements as a whole as follows:

<b>Materiality</b>	US\$ 1,181,000 (2017: US\$ 1,238,000)
<b>Basis for determining materiality</b>	3% of net assets
<b>Rationale for the benchmark applied</b>	The sole activity of the Group is to hold its investment in associate. We consider the approach of using net assets as appropriate given the nature of the investment, which continues to be in the development phase, and the significance of the investment balance to the company.



We have applied a threshold of US\$ 59,000 for reporting to the Board of directors, as well as differences below that threshold that, in our view, warranted reporting on qualitative grounds. We also report to the board on disclosure matters that we identified when assessing the overall presentation of the financial statements

### An overview of the scope of our audit

The Group is comprised of the following entities:

- Zanaga Iron Ore Company (parent)
- Zanaga UK Services (wholly owned subsidiary)

The Group's sole activity is its investment in Jumelles Limited and the underlying Zanaga Iron Ore Project. The investment is recorded as an asset under the equity accounting method, and the share of losses is recognised in the statement of comprehensive income.

Both the parent company and wholly owned subsidiary were subject to full scope audits. At the group level, we also tested the consolidation.

The Group is in a loss making position and has reported only interest income. We have determined the scoping of account balances, classes of transactions and disclosures on the basis of materiality. We issued referral instructions to the auditor of Jumelles Limited for the evaluation of the impairment in associate, and supervised and reviewed the work performed.

### Other information

The directors are responsible for the other information. The other information comprises the information included in the annual report, including the business overview, reserves and resources statement, principal risks and uncertainties, corporate social responsibility, Directors' report, corporate governance, remuneration report, other than the financial statements and our auditor's report thereon.

***We have nothing to report in respect of these matters.***

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.

## Responsibilities of directors

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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 determine 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 company'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 to cease operations, or have no realistic alternative but to do so.

## Auditor's responsibilities for the audit of the financial statements

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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 FRC's website at: [www.frc.org.uk/auditorsresponsibilities](http://www.frc.org.uk/auditorsresponsibilities). This description forms part of our auditor's report.

## Report on other legal and regulatory requirements

### Opinion on other matter prescribed by our engagement letter

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In our opinion the part of the Directors' Remuneration Report to be audited has been properly prepared in accordance with the provisions of the UK Companies Act 2006 as if that Act had applied to the company.

### Use of our report

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This report is made solely to the company's members, as a body, in accordance with our engagement letter dated 6 May 2019 and solely for the purpose of meeting the listing requirements of the London Stock Exchange – Alternative Investment Market. 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.

The engagement partner responsible for the audit was Christopher Jones.



**Deloitte LLP**  
Recognised Auditor  
London, UK

26 June 2019

## Consolidated statement of comprehensive Income

for year ended 31 December 2018

	Note	2018 US\$000	2017 US\$000
Administrative expenses		(1,071)	(577)
Share of loss of associate	6b	(795)	(824)
<b>Operating loss</b>		<b>(1,866)</b>	<b>(1,401)</b>
Interest income		9	8
<b>Loss before tax</b>		<b>(1,857)</b>	<b>(1,393)</b>
<b>Taxation</b>	5	<b>–</b>	<b>–</b>
<b>Loss for the year</b>		<b>(1,857)</b>	<b>(1,393)</b>
<i>Items that will not be reclassified subsequently to profit or loss:</i>			
Share of other comprehensive income of associate – foreign exchange translation		-	(48)
<i>Items that may be reclassified subsequently to profit or loss:</i>			
Foreign exchange translation – foreign operations	6b	(8)	52
<b>Other comprehensive income/(loss)</b>		<b>(8)</b>	<b>4</b>
<b>Total comprehensive loss</b>		<b>(1,865)</b>	<b>(1,389)</b>
<b>(Loss) per share</b>			
Basic (Cents)	12	(0.6)	(0.5)
Diluted (Cents)	12	(0.6)	(0.5)

Loss and total comprehensive loss for the year is attributable to the equity holders of the Parent Company.

The notes on pages 50 - 66 form an integral part of the financial statements.

## Consolidated statement of financial position

for year ended 31 December 2018

	Note	2018 US\$000	2017 US\$000
<b>Non-current assets</b>			
Property, plant and equipment	6a	–	–
Investment in Associate	6b	37,450	37,589
		<b>37,450</b>	<b>37,589</b>
<b>Current assets</b>			
Other receivables	7	89	49
Cash and cash equivalents	8	1,955	3,721
		<b>2,044</b>	<b>3,770</b>
<b>Total Assets</b>		<b>39,494</b>	<b>41,359</b>
<b>Current liabilities</b>			
Trade and other payables	9	(75)	(75)
<b>Net assets</b>		<b>39,419</b>	<b>41,284</b>
<b>Equity attributable to equity holders of the Parent Company</b>			
Share capital	10	267,012	267,012
Accumulated deficit		(230,912)	(229,055)
Foreign currency translation reserve		3,319	3,327
<b>Total equity</b>		<b>39,419</b>	<b>41,284</b>

The notes on pages 50 - 66 form an integral part of the financial statements.

These financial statements set out on pages 46 - 66 were approved by the Board of Directors on 26 June 2019 and were signed on its behalf by:



**Mr Clifford Elphick**  
Director



**Consolidated statement of changes in equity**  
for year ended 31 December 2018

	Share capital US\$000	Accumulated deficit US\$000	Foreign currency translation reserve US\$000	Total equity US\$000
Balance at 1 January 2017	267,012	(227,662)	3,322	42,672
Consideration for share-based payments	–	–	–	–
Loss for the year	–	(1,393)	–	(1,393)
Other comprehensive income	–	–	4	4
Total comprehensive loss	–	(1,393)	4	(1,389)
<b>Balance at 31 December 2017</b>	<b>267,012</b>	<b>(229,055)</b>	<b>3,327</b>	<b>41,284</b>
Balance at 1 January 2018	267,012	(229,055)	3,327	41,284
Consideration for share-based payments	–	–	–	–
Loss for the year	–	(1,857)	–	(1,857)
Other comprehensive income / (loss)	–	–	(8)	(8)
Total comprehensive loss	–	(1,857)	(8)	(1,865)
<b>Balance at 31 December 2018</b>	<b>267,012</b>	<b>(230,912)</b>	<b>3,319</b>	<b>39,419</b>

## Consolidated cash flow statement

for year ended 31 December 2018

	Note	2018 US\$000	2017 US\$000
<b>Cash flows used in operating activities</b>			
Loss for the year		(1,857)	(1,393)
<i>Adjustments for:</i>			
Interest receivable		(9)	(8)
Decrease/(Increase) in other receivables		(40)	11
(Decrease)/Increase in trade and other payables		-	(38)
Net exchange gain/(loss)		144	(313)
Share of Loss in associate		795	824
<b>Net cash used in operating activities</b>		<b>(967)</b>	<b>(917)</b>
<b>Cash flows used in financing activities</b>			
<b>Cash flows used in investing activities</b>			
Interest received		9	8
Investment in Associate		(656)	(588)
<b>Net cash used in investing activities</b>		<b>(647)</b>	<b>(580)</b>
<b>Net decrease in cash and cash equivalents</b>		<b>(1,614)</b>	<b>(1,497)</b>
Cash and cash equivalents at beginning of year		3,721	4,852
Effect of exchange rate difference		(152)	366
<b>Cash and cash equivalents at end of year</b>	8	<b>1,955</b>	<b>3,721</b>

The notes on pages 50 - 66 form an integral part of the financial statements.

## Notes to the financial statements

### 1 Business information and going concern basis of preparation

#### Background

Zanaga Iron Ore Company Limited (the “Company”), was incorporated on 19 November 2009 under the name of Jumelles Holdings Limited. The Company changed its name on 1 October 2010. The Company is incorporated in the British Virgin Islands (“BVI”) and the address of its registered office, is situated at Ground Floor, Coastal Building Wickham’s Cay II, Road Town P.O. Box 2136, Carrot Bay VG1130 Tortola, British Virgin Islands. On 18 November 2010, the Company’s share capital was admitted to trading on the AIM Market (“AIM”) of the London Stock Exchange (“Admission”). The Company’s principal place of business as an investment holding vehicle is situated in Guernsey, Channel Islands.

At 31 December 2010 the Company held 100% of the share capital of Jumelles Limited subject to the then Call Option.

On 14 March 2011 the Company incorporated and acquired the entire share capital of Zanaga UK Services Limited for US\$2, a company registered in England and Wales which provides investor management and administrative services.

In 2007, Jumelles became the special purpose holding company for the interests of its then ultimate 50/50 founding shareholders, Garbet Limited (“Garbet”) and Guava Minerals Limited (“Guava”), in MPD Congo which, owns and operates 100% of the Zanaga Project in the RoC (subject to a minimum 10% free carried interest in MPD Congo in favour of the Government of the RoC).

In December 2009 Garbet and Guava contributed their then respective 50/50 joint shareholding in Jumelles to the Company.

Guava is majority owned by African Resource Holdings Limited (“ARH”), a BVI company that specialises in the investment and development of early stage natural resource projects in emerging markets. Guava owns approximately 31.83% of the share capital of the Company.

At the time that Garbet was a shareholder in the Company, it was majority owned by Strata Limited (“Strata”), a private investment holding company based in Guernsey, which specialises in the investment and development of early stage natural resource projects in emerging markets, predominately Africa. Until 3 April 2017 Garbet owned approximately 41.49% of the share capital of the Company. Pursuant to a transaction effected on 2 April 2017 Garbet ceased to hold any shares in the Company. As part of such transaction the shares in the Company which were held by Garbet were transferred directly or indirectly to Garbet’s shareholders and the shareholders of Garbet’s holding company, Strata.

Jumelles has three subsidiary companies, namely Jumelles M Limited, Jumelles Technical Services (UK) Limited and MPD Congo.

#### Xstrata Transaction

On 16 October 2009, Garbet and Guava and Jumelles entered into a transaction with Xstrata (Schweiz) AG (on 3 December 2009, Xstrata (Schweiz) AG was substituted by Xstrata Projects (pty) Limited (“Xstrata Projects”), comprising of two principal transaction agreements (together the “Xstrata Transaction”):

- The Call Option deed which gave Xstrata Projects an option to subscribe for 50% plus 1 share of the fully diluted and outstanding shares of Jumelles (“Majority Stake”) in return for providing funding towards ongoing exploration of the Zanaga exploration licence area and a pre-feasibility study (the “PFS”) subject to a minimum amount of US\$50 million call option. Under the terms of the Call Option, the consideration payable by Xstrata Projects for the option shares that would be issued by Jumelles would comprise (i) a commitment to fund all costs to be incurred by Jumelles in completing a feasibility study (“FS”) (provided such amount shall be greater than US\$100 million) or to carry out such a feasibility study at its own cost and (ii) payment of an amount (up to a maximum of US\$25 million) equal to the amount that Jumelles owes to Garbet and Guava as loans which would be used to repay the latter; and

- an agreement which regulated the respective rights of the Company, Jumelles and Xstrata Projects in relation to Jumelles following exercise of the Call Option. Subsequently:
  - Xstrata merged with the Glencore group on 2 May 2013 to form Glencore Xstrata and the holding company of the merged group subsequently changed its name to Glencore.
  - Under the terms of the supplemental agreement announced on 13 September 2013 (“Supplemental Agreement”), the scope of the above mentioned FS was modified to a staged development basis, and the revised basis FS was completed in May 2014. The Supplemental Agreement also extended the work programme beyond the conclusion of the FS, up to December 2014 (towards which the Company contributed US\$17m from existing resources), and the Glencore call option over the Company’s remaining 50% less one share shareholding in Jumelles was deleted.

During 2010, the PFS progressed and following completion of Phase I of that study Xstrata Projects countersigned a further funding letter confirming in writing its agreement (subject to the provisions of the Call Option) to contribute further funding and confirming its approval of the phase II work programme, budget and funding amount (up to US\$56.49 million) as set out in that letter.

Xstrata Projects exercised the Call Option on 11 February 2011 and the founding shareholder loans were repaid. The final elements of the Call Option price consideration were the completion of the Feasibility Study and costs thereof, and these were completed in April 2014.

#### **Relationship between Jumelles and its shareholders after exercise of the Call Option (Post February 2011)**

The Company, Jumelles and Xstrata Projects agreed to regulate their respective rights in relation to the Project following exercise of the Call Option under the terms of the joint venture agreement (“JVA”). Under the terms of the JVA (as amended), all significant decisions regarding the conduct of Jumelles’ business (other than certain protective rights which require the agreement of shareholders holding at least 95% of the voting rights in Jumelles) are made by the Board of Directors.

Glencore has the right to appoint three directors to the Jumelles Board while ZIOC has a right to appoint two directors. At any Jumelles Board meeting, the directors nominated by Glencore have between them such number of votes as represents Glencore’s voting rights in the general meetings of Jumelles and the directors nominated by ZIOC have between them such number of votes as represents ZIOC’s voting rights in the general meetings of Jumelles.

As a consequence of the provisions of the JVA (in its original version and as subsequently amended), following exercise of the Call Option in February 2011 and Xstrata’s merger with the Glencore group to form Glencore Xstrata (May 2013), Glencore controls Jumelles at both a shareholder and director level and therefore controls what was the Company’s sole mineral asset, the Zanaga Project. Going forward the Company accounted for this as an Investment in Associate in respect of the Project with Glencore.

Following exercise of the Call Option, the principal business of the Company has been to manage its 50% less one share interest in the Project. Initially this involved the monitoring of both the finalisation of the pre-feasibility study and the preparation of the feasibility study. Subsequently emphasis has been placed on progressing the key objectives of the Project Team. These objectives include the establishment of port and power agreements with relevant developers, issue of the environmental permit, and ratification of the Zanaga Mining Convention by the Parliament of the RoC. These items form important milestones as the Project moves toward attracting the finance required for the implementation of Stage One. The objectives also include progressing the evaluation of the EPP.

## **Future funding requirements and going concern basis of preparation**

The Directors have prepared the accounts on a going concern basis. At 31 December 2018 the Company had cash reserves of US\$2.0m.

Similar to the Funding Agreement for 2018 project expenditure, Glencore and ZIOC have agreed a Funding Agreement to fund the 2019 Project Work Programme and Budget for the Project of US\$1.3m plus US\$0.13m of discretionary spend dependent on certain workstreams requiring capital. After taking in savings arising from previous years, ZIOC has agreed to contribute towards such work programme and budget an amount comprising US\$0.65m plus 49.99% of all discretionary items approved jointly with Glencore. Ignoring any entitlement to savings, ZIOC's potential contribution to the Project in 2019 under the 2019 Funding Agreement is US\$0.73m in total. In the event that a decision is taken to allocate capital to more extensive product tests or study work additional funding may be required.

The Company's current cash reserves are sufficient to support both the Company's own operating costs for the next 12 months and the agreed contribution to the Project under the Funding Agreement for 2019 referred to in the previous paragraph.

The Company continues to review the costs of its operational activities with a view to conserving its cash resources. As part of such ongoing review, the Directors and management have indicated to the Company that they will assist the cash preservation activities of the Company, by re-negotiating contractual arrangements so as to provide for payments of fees in shares and/or options in lieu of cash. If this course of action is determined to be necessary, It is expected that this will take effect from the beginning of Q4 2019.

In common with many exploration and development companies in the mining sector, the Company raises funding in phases as its project develops. As the Zanaga Project is still in the development stage and the cash resources of the Company are diminishing, the Company recognises that steps will need to be taken to raise additional investment either at the corporate level or at the Zanaga Project level, or a combination of the two. The raising of additional funds is linked to the progress that is made in relation to the development of the Zanaga Project. The initiatives that are being undertaken in relation to the development of the Zanaga Project have been described earlier in this report. There are a range of options for raising funds which the Company is pursuing. It is recognised that there is a risk that the Company may be unable to obtain debt and/or equity financing in the amounts required, in a timely manner, on favourable terms or at all and should this occur, it is highly likely to pose challenges for the Company and could adversely have an impact upon the proposed development of the Zanaga Project and the proposed timeline for its development.

If construction of the mine and related infrastructure proceeds (including any preparatory steps associated with the construction of the mine and related infrastructure), and the Company elects to fund its pro rata equity share of construction capital expenditure, it will need to raise further funds. There is no certainty as to the Company's ability to raise the required finance or the terms on which such finance may be available.

In addition, any decision of the Jumelles Board to proceed with construction of the mine and related infrastructure (or any variant such as a low-cost small scale start-up) is itself dependent upon the ability of Jumelles to raise the necessary debt and equity to finance such construction and the initial operation of the mine. Jumelles itself may be unable to obtain debt and/or equity financing in the amounts required, in a timely manner, on favourable terms or at all and should this occur, it is highly likely to pose challenges to the proposed development of the Zanaga Project and the proposed timeline for its development.

The Company still believes that once the proposed staged development of the Zanaga Project occurs, the Project offers high grade ore at competitive cost, thereby offering an attractive rate of return, at an acceptable level of risk. However, in order to carry out such staged development, it is still the case that substantial capital expenditure will be required both at the prospective mine site and in respect of transportation and other associated infrastructure and for working capital. Revenues from mining are dependent upon such development being financed and taking place. Despite the positive current state of the global iron ore market there can be no certainty as to when Jumelles and the Company are able to raise new finance for the staged development of the Project or any small-scale start-up.

At a time when the staged development of the Project takes place (or, if viable, a small-scale start-up takes place) the Company will need to obtain additional funding should it decide to elect to fund its share of any such development of the mine. If such staged development continues to be deferred due to unfavourable market conditions, the Company will need at the appropriate time to explore options to raise additional funding, pending the staged development (or, if viable, a small-scale start-up) taking place.

At present, taking into account the judgments, estimates and other matters discussed above, the Company has sufficient financial resources to continue in operational existence for the foreseeable future. For these reasons, the financial statements of the Company have been prepared on a going concern basis.

## **Brexit**

The Brexit process has resulted in increased volatility in currency rates applicable to Pounds Sterling. Such volatility is likely to continue. As the Company's cash resources are held in Pounds Sterling, such volatility could adversely affect the Company's financial position and results where it is obliged to make payments of sums denominated in other currencies. This particularly applies to contributions made by the Company to funding the Jumelles group as these amounts are calculated in United States dollars.

## **2 Accounting policies**

The principal accounting policies applied in the preparation of these financial statements are set out below. These policies have been consistently applied to all the periods presented, unless otherwise stated.

### **Basis of preparation**

These financial statements have been prepared in accordance with the International Financial Reporting Standards as adopted by the European Union ("Adopted IFRS"). Adopted IFRS comprises standards and interpretations approved by the International Accounting Standards Board ("IASB") and the International Financial Reporting Interpretations Committee ("IFRIC") as adopted by the European Union.

The financial statements consolidate those of the Company and its subsidiary Zanaga UK Services Limited (together, the "Group") and the Company's investment in an associate which is accounted for using the equity method.

The company's presentation currency and functional currency is US dollars.

### **New standards, amendments and interpretations**

The following Adopted IFRSs have been issued but have not been applied by the Group in these financial statements. Their adoption is not expected to have a material effect on the financial statements unless otherwise indicated:

- IFRS 16 Leases (effective date 1 January 2019)

As at the reporting period end date, the Group has no material operating lease commitments and therefore no significant changes in accounting policies or to the financial statements are expected upon adoption of the new standard.

### **Adoption of new standards effective 1 January 2018**

#### **(i) IFRS 9 Financial Instruments**

IFRS 9 supersedes IAS 39 "Financial Instruments: Recognition and Measurement" and covers classification and measurement of financial assets and financial liabilities, impairment of financial assets and hedge accounting. IFRS 9 modifies the classification and measurement of certain classes of financial assets and liabilities and required the Group to reassess classification of its financial assets from four to three primary categories (amortised cost, fair value through profit and loss, fair value through other comprehensive income). Financial liabilities continue to be measured at either fair value through profit and loss or amortised cost. In addition, IFRS 9 introduced an expected credit loss ("ECL") impairment model, which requires a loss allowance to be recognised on the basis of future anticipated credit losses rather than incurred credit losses.

The table below summarises the change in classification and measurement of financial assets and liabilities recognised previously under IAS 39 and the revised measurement categories following adoption of IFRS 9 as of 1 January 2018.

\$'000	Note	Original measurement category under IAS 39	New measurement category under IFRS 9	Original carrying amounts under IAS 39	Effect of IFRS 9 adoption	New carrying amount under IFRS 9
<b>Financial assets</b>						
Cash and cash equivalents	8	Fair value through profit or loss	Amortised cost	1,955	-	3,721
Other receivables	7	Loans and receivables	Amortised cost	49	-	49
<b>Financial liabilities</b>						
Trade and other payables	9	Amortised cost	Amortised cost	(75)	-	(75)

Note that both cash and cash equivalents and other receivables are held within a business model whose objective is to collect the contractual cashflows and those contractual cashflows comprise solely payments of principal and interest.

Changes in accounting policies resulting from IFRS 9 have been applied as of 1 January 2018, with no restatement of comparative information of the prior year. There were no changes to carrying values of financial assets or liabilities upon the initial adoption of IFRS 9.

#### (ii) IFRS 15 Revenue from contracts with customers

IFRS 15 was adopted on the mandatory application date of 1 January 2018. Whilst the Group has applied IFRS 15 from 1 January 2018, this application has no impact on the Group's financial statements as it does not have any revenues given the development stage of its investment in the Project.

#### Measurement convention

These financial statements have been prepared on the historical cost basis of accounting.

The preparation of financial statements in conformity with Adopted IFRS requires the use of certain critical accounting estimates. It also requires management to exercise judgement in the process of applying the Group's accounting policies. The areas involving a higher degree of judgement or complexity, or areas where assumptions and estimates are significant to the financial statements are disclosed in Note 3.

#### Basis of consolidation

##### *Subsidiaries*

Subsidiaries are entities controlled by the Group. The financial statements of subsidiaries are included in the financial statements from the date that control commences until the date that control ceases.

##### *Associates*

Investments in associates are recorded using the equity method of accounting whereby the investment is initially recognised at cost and adjusted thereafter for the post-acquisition changes in the Group's share of the net assets of the associate. The Group profit or loss and other comprehensive income includes the Group's share of the associate's profit or loss and other comprehensive income. The investment is considered for impairment annually.

##### *Transactions eliminated on consolidation*

Intra-group balances and transactions, and any unrealised income and expenses arising from the intra-group transactions, are eliminated in preparing the financial statements.

##### *Foreign currency*

Transactions in foreign currencies are translated at the foreign exchange rate ruling at the date of the transaction. Monetary assets and liabilities denominated in foreign currencies at the reporting date are

retranslated to the functional currency at the foreign exchange rate ruling at that date. Foreign exchange differences arising on translation are recognised in equity.

### ***Share-based payments***

The Group makes equity-settled share-based payments to certain employees and similar persons as part of LTIP (a long-term incentive plan). The fair value of the equity-settled share-based payments is determined at the date of the grant and expensed, with a corresponding increase in equity, on a straight line basis over the vesting period, based on the Group estimate of the awards that will eventually vest, save for any changes resulting from any market-performance conditions.

Where awards were granted to employees of the Group's associate and similar persons, the equity-settled share-based payments were recognised by the Group as an increase in the cost of the investment with a corresponding increase in equity over the vesting period of the awards. In equity accounting for the Group's share of its associate, the Group has accounted for the cost of equity settled share-based payments as if it were a subsidiary.

The shares issued under the 2010 LTIP were acquired by an Employee Benefit Trust which subscribed for the shares at zero value. These shares are held by the Employee Benefit Trust until the vesting conditions have been met and the share options are exercised. During Q4 2017, all the outstanding share options were exercised and a small number of surplus shares held by the Employee Benefit Trust were distributed to beneficiaries of the Trusts. The Employee Benefit Trust has now been discontinued.

Subsequent awards of share options have been structured as standard share options and did not involve the use of an employee benefit trust.

Information on the share awards is provided in Note 11 to these financial statements.

### ***Share-based payments to non-employees***

Where the Group received goods or services from a third party in exchange for its own equity instruments and the amount of equity instruments is fixed, the equity instruments and related goods or services are measured at the fair value of the goods or services received and are recognised as the goods are obtained or the services rendered. Equity instruments issued under such arrangements for the receipt of services are only considered to be vested once provision of services is complete. Such awards are structured as standard share options. No awards were issued in 2017 or 2018.

### ***Non-derivative 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 in accordance with IFRS 9.

Financial assets are initially recognised at their fair value, including, in the case of instruments not recorded at fair value through profit or loss, directly attributable transaction costs. Financial assets are subsequently measured at amortised cost, at fair value through other comprehensive income (FVTOCI) or at fair value through profit or loss (FVTPL) depending upon the business model for managing the financial assets and the nature of the contractual cash flow characteristics of the instrument.

Financial liabilities, other than derivatives, are initially recognised at fair value of consideration received net of transaction costs as appropriate and subsequently carried at amortised cost.

Non-derivative financial instruments in the balance sheet comprise other receivables, cash and cash equivalents, and trade and other payables.



(i) Impairment of financial assets

A loss allowance for expected credit losses is determined for all financial assets, other than those at FVTPL, at the end of each reporting period. The expected credit loss recognised represents a probability-weighted estimate of credit losses over the expected life of the financial instrument.

The expected credit loss allowance is determined on the basis of twelve month expected credit losses and where there has been a significant increase in credit risk, lifetime expected credit losses. Financial assets are credit impaired when there is no realistic likelihood of recovery.

(ii) Derecognition of financial assets and financial liabilities

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.

On derecognition of a financial asset/financial liability in its entirety, the difference between the carrying amount of the financial asset/financial liability and the sum of the consideration received and receivable/paid and payable is recognised in profit and loss.

***Other receivables***

Other receivables comprise prepayment and receivables from related parties. Where financial assets are included within this line item, these are managed within a business model to collect the contract cashflows, which represent solely payments of principal and interest. Other receivables are subsequently measured at amortised cost.

***Trade and other payables***

Trade and other payables are initially recognised at the fair value of consideration received net of transaction costs as appropriate and subsequently measured at amortised cost.

***Cash and cash equivalents***

Cash and cash equivalents comprise cash balances and call deposits. These are managed within a business model to collect the contract cashflows, which represent solely payments of principal and interest. These are subsequently measured at amortised cost and are determined to have a low credit risk due to being held with highly credit rated financial institutions. As such, these balances are not assessed to determine whether there has been a significant increase in credit risk.

***Share capital***

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

When share capital recognised as equity is repurchased, the amount of consideration paid, including directly attributable costs, is recognised as a change in equity. Repurchased shares are cancelled.

***Impairment of investment in associate***

The carrying amounts of the Group's investment in associate are reviewed at each reporting period end to determine whether there is any indication of impairment. The investment is considered to be impaired if objective evidence indicates that one or more events have had a negative effect on the estimated future cash flows of that investment. If any such indication exists, the investment's recoverable amount is estimated.

An impairment loss is recognised whenever the carrying amount of the investment or its cash-generating unit exceeds its recoverable amount. Impairment losses are recognised in the income statement.

(i) Calculation of recoverable amount

The recoverable amount of the Group's investments carried at amortised cost is calculated as the present value of estimated future cash flows, discounted at the original effective interest rate (i.e. the effective interest rate computed at initial recognition of these financial assets).

(ii) Reversals of impairment

An impairment loss is reversed when there is an indication that the impairment loss may no longer exist and 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.

***Financing income and expenses***

Interest income and interest payable is recognised in profit or loss as it accrues, using the effective interest method.

***Taxation***

Tax on the profit or loss for the year comprises current and deferred tax. Tax is recognised in the income statement except to the extent that it relates to items recognised directly in equity, in which case it is recognised in equity.

Current tax is the expected tax payable on the taxable income for the year, using tax rates enacted or substantively enacted at the end of each reporting period, and any adjustment to tax payable in respect of previous years.

Deferred tax is provided on temporary differences between the carrying amounts of assets and liabilities for financial reporting purposes and the amounts used for taxation purposes. The following temporary differences are not provided for: the initial recognition of goodwill; the initial recognition of assets or liabilities that affect neither accounting nor taxable profit other than in a business combination; and differences relating to investments in subsidiaries to the extent that they will probably not reverse in the foreseeable future. The amount of deferred tax provided is based on the expected manner of realisation or settlement of the carrying amount of assets and liabilities, using tax rates enacted or substantively enacted at the end of each reporting period.

A deferred tax asset is recognised only to the extent that it is probable that future taxable profits will be available against which the temporary difference can be utilised.

***Segmental Reporting***

The Group has one operating segment, being its investment in the Project, held through Jumelles. Financial information regarding this segment is provided in Note 6b.

***Subsequent events***

Post year-end events that provide additional information about the Group's position at the end of each reporting period (adjusting events) are reflected in the financial statements. Post year-end events that are not adjusting events are disclosed in the notes to financial statements when material.

### 3 Critical accounting judgements and key sources of estimation uncertainty

In the application of the Group's accounting policies, which are described in note 2, the directors are required to make judgements (other than those involving estimations) that have a significant impact on the amounts recognised and to make estimates and assumptions about the carrying amounts of assets and liabilities that are not readily apparent from other sources. The estimates and associated assumptions are based on historical experience and other factors that are considered to be relevant. Actual results may differ from these estimates.

The estimates and underlying assumptions are reviewed on an ongoing basis. Revisions to accounting estimates are recognised in the period in which the estimate is revised if the revision affects only that period, or in the period of the revision and future periods if the revision affects both current and future periods.

#### Carrying value of Investment in Associate

The value of the Group's investment in Jumelles depends very largely on the value of Jumelles' interest in the Project. Jumelles assesses at least annually whether or not its exploration projects may be impaired. This assessment can involve significant estimation uncertainty as to the likelihood that a project will continue to show sufficient commercial promise to warrant the continuation of exploration and evaluation activities. Key assumptions on valuing the project include long term price assumptions on a CFR IODEX 62% Fe forecast 57US/dmt with adjustments for quality, deleterious elements, moisture and freight. It is reasonably possible, on the basis of existing knowledge, that outcomes within the next financial year that are different from assumptions above could require a material adjustment to the carrying amount of the Investment in Associate.

### 4 Note to the comprehensive income statement

Operating loss before tax is stated after charging/(crediting):

	2018 US\$000	2017 US\$000
Share-based payments (see Note 11)	–	–
Net foreign exchange loss/(gain)	(152)	(313)
Directors' fees	234	258
Auditor's remuneration	62	64

Other than the Company Directors, the Group did not directly employ any staff in 2018 (2017: nil). The Directors received a total of US\$234,003 remuneration for their services as Directors of the Group (2017: US\$258,000). The amounts paid as Directors' fees are shown in the Directors' Remuneration Report on pages 38 and 39. The Directors' interests in the share capital of the Group are shown in the Directors' Remuneration Report on page 38.

### 5 Taxation

The Group is exempt from most forms of taxation in the BVI, provided the Group does not trade in the BVI and does not have any employees working in the BVI. All dividends, interest, rents, royalties and other expense amounts paid by the Company, and capital gains are realised with respect to any shares, debt obligations or other securities of the Company, are exempt from taxation in the BVI.

The effective tax rate for the Group is Nil % (2017: Nil %).

## 6a Property, Plant and Equipment

	Fixtures and fittings US\$000	Total US\$000
<b>Cost</b>		
Balance at 1 January 2018	43	43
Additions	–	–
Disposals	–	–
<b>Balance at 31 December 2018</b>	<b>43</b>	<b>43</b>
<b>Depreciation</b>		
Balance at 1 January 2018	43	43
Charge for period	–	–
<b>Balance at 31 December 2018</b>	<b>43</b>	<b>43</b>
<b>Net book value</b>		
<b>Balance at 31 December 2018</b>	<b>0</b>	<b>0</b>
Balance at 31 December 2017	0	0

There are no assets held under finance leases or hire purchase contracts.

## 6b Investment in Associate

	US\$000
Balance at 1 January 2017	37,873
Additions	588
Share of post-acquisition comprehensive loss	(824)
Share of post-acquisition currency translation reserve	(48)
<b>Balance at 31 December 2017</b>	<b>37,589</b>
Balance at 1 January 2018	37,589
Additions	656
Share of post-acquisition comprehensive loss	(795)
Share of post-acquisition currency translation reserve	–
<b>Balance at 31 December 2018</b>	<b>37,450</b>

At 31 December 2018, the investment represents a 50% less one share shareholding in Jumelles being 2,000,000 shares of the total share capital of 4,000,001 shares. Originally recorded at cost, the investment has been adjusted for changes in the Company's share of the net assets of the associate, less impairment. The investment has been impaired down to the Company's share of the impaired value of the project declared in the accounts of the associate.

The additions to the investment during the year were due to the additional US\$0.66m of investment agreed in accordance with the 2018 Funding Agreement (2017 US\$0.59m).

The Company's investment in Jumelles continues to be, accounted for as an associate using the equity method of accounting as Glencore has control of the business as described in note 1.

As at 31 December 2018, Jumelles had aggregated assets of US\$81.6m (2017: US\$81.8m) and aggregated liabilities of US\$0.8m (2017: US\$0.8m). For the year ended 31 December 2018 there was no impairment charge (2017: US\$nil) and incurred a loss before tax of US\$1.6m (2017: US\$1.4m). There was no tax charge for 2018 (2017: US\$nil). Currency translation of the underlying Congolese asset generated a translation loss of US\$nil (2017: US\$0.1m). A summarised consolidated balance sheet of Jumelles for the year ended 31 December 2018, including adjustments made for equity accounting, is included below. The adjustments include US\$9.074m decrease to share capital and a corresponding US\$9.074m increase to the accumulated deficit for the LTIP settled at Jumelles level by shares in the parent entity in 2014.

Summarised financial information in respect of the Group's associate, reflecting 100% of the underlying associate's relevant figures is set out below.

	2018 US\$000	2017 US\$000
Non-current Assets:		
Property, plant and equipment	1,270	1,519
Exploration and other evaluation assets	80,000	80,000

Total non-current assets	81,270	81,519
Current Assets	323	356
Current Liabilities	(768)	(772)
Net current liabilities	(444)	(417)
Net assets	80,825	81,103
Share capital	293,103	293,103
Translation reserve	37,326	36,014
Translation reserve	(4,824)	(4,823)
Accumulated deficit	(244,780)	(243,191)
	80,825	81,103

## 7 Other receivables

	2018 US\$000	2017 US\$000
Prepayments and receivables	14	15
Amounts receivable from the Jumelles group	75	34
Other receivables	89	49

## 8 Cash and cash equivalents

	2018 US\$000	2017 US\$000
Cash and cash equivalents	1,955	3,721

## 9 Trade and other payables

	2018 US\$000	2017 US\$000
Accounts payable	75	75
	75	75

No amounts payable are due in more than 12 months (2017: US\$nil due in more than 12 months).

## 10 Share capital

	Ordinary Shares	Ordinary Shares
In thousands of shares		
	2018	2017
<b>On issue at 1 January – fully paid</b>	<b>278,777</b>	<b>278,777</b>
Shares issued	4,424	–
Shares repurchased and cancelled	–	–
<b>On issue at 31 December – fully paid</b>	<b>283,201</b>	<b>278,777</b>

The Company is able to issue an unlimited number of no par value shares. 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. No dividends have been paid or declared in 2018 or in the current year (2017: US\$nil).

### Share capital changes in 2018

4,424,503 shares were issued in 2018. There were no share repurchases.

## 11 Share-based payments

### Employees

No awards were issued in 2018.

Awards currently in operation are as follows:

#### Award 1 (fully vested)

These awards vested on the publication of the results of the VEE, which was achieved in October 2011.

#### Award 2 (fully vested)

These awards fully vested in 2012 on the expiry of two years following Admission.

#### Award 6 (fully vested)

These awards have fully vested.

#### Award 7 (fully vested)

These awards have fully vested.

#### Award 8 (fully vested)

These awards vested on the date of grant in July 2014.

#### Award 9 (fully vested)

These awards have fully vested.

Details of current awards are as follows:

	Award 1 (2010)		Award 2 (2010)		Award 6 (2014)		Award 8 (2014)		Award 9 (2014)		Total	
	Weighted Average Exercise Price		Weighted Average Exercise Price		Weighted Average Exercise Price		Weighted Average Exercise Price		Weighted Average Exercise Price		Weighted Average Exercise Price	
	(£)	Number	(£)	Number	(£)	Number	(£)	Number	(£)	Number	(£)	Number
At 1 January 2017 *	£0.02	2,727,345	£0.02	995,382	0.01	1,204,619	0.01	1,013,418	0.01	4,000,000	£0.01	9,940,764
	(US\$0.04)		(US\$0.04)								(US\$0.04)	
Granted	N/A	Nil	N/A	Nil	N/A	Nil	N/A	Nil	N/A	Nil	N/A	Nil
Forfeited	N/A	Nil	N/A	Nil	N/A	Nil	N/A	Nil	N/A	Nil	N/A	Nil
Exercised	N/A	Nil	N/A	Nil	0.01	Nil	0.01	Nil	0.1	Nil	N/A	Nil
Lapsed	N/A	Nil	N/A	Nil	N/A	Nil	N/A	Nil	N/A	Nil	N/A	Nil
At 31 December 2017 *	0.02	2,727,345	0.02	995,382	0.01	1,204,619	N/A	1,013,418	0.01	2,000,000	£0.01	9,940,764
At 1 January 2018 *	£0.02	2,727,345	£0.02	995,382	0.01	1,204,619	0.01	1,013,418	0.01	4,000,000	£0.01	9,940,764
	(US\$0.04)		(US\$0.04)								(US\$0.04)	
Granted	N/A	Nil	N/A	Nil	N/A	Nil	N/A	Nil	N/A	Nil	N/A	Nil
Forfeited	N/A	Nil	N/A	Nil	N/A	Nil	N/A	Nil	N/A	Nil	N/A	Nil
Exercised	0.02	2,727,345	0.02	995,382	0.01	201,848	0.01	1,013,418	0.1	2,000,000	0.1	6,937,993
Lapsed	N/A	Nil	N/A	Nil	N/A	Nil	N/A	Nil	N/A	Nil	N/A	Nil
At 31 December 2018 *	N/A	Nil	N/A	Nil	0.01	1,002,771	N/A	Nil	0.01	2,000,000	£0.01	3,002,771
	Award 1 (2010)		Award 2 (2010)		Award 6 (2014)		Award 8 (2014)		Award 9 (2014)		Total	
Range of exercise prices *	£0.00–£0.02 (US\$0.00–US\$0.04)		£0.02 (US\$0.04)		£0.00–£0.01 (US\$0.00–US\$0.02)		£0.01 (US\$0.02)		£0.01 (US\$0.02)		£0.00 – £0.02 (US\$0.00–US\$0.04)	
Weighted average fair value of share awards granted in the period *	N/A		N/A		N/A		N/A		N/A		N/A	
Weighted average share price at date of exercise (£)	N/A		N/A		N/A		N/A		N/A		N/A	
Total share awards vested	2,727,345		995,382		1,137,338		1,013,418		4,000,000		8,337,685	
Weighted average remaining contractual life (Days)	Nil		Nil		39		Nil		Nil		N/A	
Expiry date	18 May 2021		18 May 2021		29 July 2024**		29 July 2024		29 July 2024		N/A	

\* Sterling amounts have been converted into US Dollars at the grant dates exchange rates of: Awards 1,2, US\$1.547:£1.00, Subsequent awards US\$ 1.6944:£1.00.

\*\* Excepting 199,076 share options with expiry date 7 July 2023

The following information is relevant in the determination of the fair value of options granted during 2010 and 2014 which has applied option valuation principles during the year under the above equity-settled schemes:

	Award 1 (2010)	Award 2 (2010)	Award 6 (2014)	Award 8 (2014)	Award 9 (2014)
Option pricing model used	Black-Scholes	Black-Scholes	Black-Scholes	Black-Scholes	Black-Scholes
Weighted average share price at date of grant	£1.56 (US\$2.41)	£1.56 (US\$2.41)	£0.19 (US\$0.31)	£0.19 (US\$0.31)	£0.19 (US\$0.31)
Weighted average expected option life	0.7 years	1.0 years	5.0 years	4.0 years	4.6 years
Expected volatility (%)	50%	50% for less than 1 year expected life, 55% for more than 1 year expected life	91%	91%	91%
Dividend growth rate (%)	Zero	Zero	Zero	Zero	Zero
Risk-free interest rate (%)	0.51% for 6 month expected life 0.69% for 12 month expected life	0.69% for 12 month expected life 1.12% for 24 month expected life	1.75% for 12 month expected life 2.25% in excess of 24 month expected life	1.75% for 12 month expected life 2.25% in excess of 24 month expected life	1.75% for 12 month expected life 2.25% in excess of 24 month expected life

\* Sterling amounts have been converted into US Dollars at the grant dates exchange rates of: Awards 1,2, US\$1.547:£1.00, Subsequent awards US\$ 1.6944:£1.00.

The volatility assumption of awards 1 & 2 were measured by reference to the historic volatility of comparable companies based on the expected life of the option. Subsequent awards referenced the volatility of the Company's own history since the 2010 flotation.

### Non-employees

Replacing awards made previously, or as new awards, on 29 July 2014 the Company also granted awards of share options in respect of consultancy services provided by Strata Capital UK LLP, Harris GeoConsult Ltd and Renroc International Ltd.

Consultancy	Weighted average share price at date of grant *	Weighted average fair value of share awards *	Weighted average expected life of option	Expiry date	Other LTIP terms, valuation model and assumptions applicable
Strata Capital	£0.19 (US\$0.31)	£0.12 (US\$0.20)	4 years	29 July 2024	Award 8 above
Harris GeoConsult	£0.19 (US\$0.31)	£0.18 (US\$0.31)	4 years	29 July 2024	Award 8 above
Renroc International	£0.19 (US\$0.31)	£0.18 (US\$0.31)	4 years	29 July 2024	Award 7 above

\* Sterling amounts have been converted into US Dollars at the grant date exchange rate US\$ 1.6944:£1.00.

The total equity-settled share-based payment expense recognised as an operating expense during the year was US\$nil, (2017: US\$nil). Further details of share-based payments awarded to Directors of the Group can be found in the Remuneration Report on pages 37 - 39.

The total charge during the year for equity-settled share-based payments awarded to employees of companies in which the Group has a significant interest totals US\$nil (2017: US\$nil).



## 12 Loss per share

	2018	2017
<b>Profit (Loss) (Basic and diluted) (US\$,000)</b>	<b>(1,857)</b>	<b>(1,393)</b>
<b>Weighted average number of shares (thousands)</b>		
<i>Basic</i>		
Issued shares at beginning of period	278,777	278,777
Effect of shares issued	4,424	-
Effect of share repurchase and cancellation	-	-
Effect of own shares	-	(3,842)
Effect of share split	-	-
Weighted average number of shares at 31 December – basic	283,201	274,935
<b>Loss per share</b>		
Basic (Cents)	(0.6)	(0.5)
Diluted (Cents)	(0.6)	(0.5)

There are potential ordinary shares outstanding, refer to Notes 10 and 11 for details of these potential ordinary shares.

## 13 Financial instruments

### *Financial Risk Management*

The Group's activities expose it to a variety of financial risks: credit risk, liquidity risk and market risk (comprising currency risk and interest rate risk). The Group seeks to minimise potential adverse effects of these risks on the Group's financial performance. The Board has overall responsibility for managing the risks and the framework for monitoring and coordinating these risks. The Group's financial risk management policies are set out below:

#### *(a) 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 receivables related parties. The Group has a credit policy in place and exposure to credit risk is monitored on an ongoing basis. At 31 December, the Group's maximum exposure to credit risk was as follows:

	2018 US\$000	2017 US\$000
Cash and cash equivalents	1,955	3,721
Amounts receivable from Jumelles Group	75	34

Significant concentrations of credit risk manifest with the Group's banking counterparties with which the cash and cash equivalents are held, and accounts receivable from Jumelles.

#### *(b) Liquidity risk*

Liquidity risk is the risk that the Group is unable to meet its payment obligations when due, or that it is unable, on an ongoing basis, to borrow funds in the market on an unsecured or secured basis at an acceptable price to fund actual or proposed commitments. Prudent liquidity risk management implies maintaining sufficient cash and cash equivalents and availability of adequate committed funding facilities.

The Group evaluates and follows continuously the amount of liquid funds needed for business operations, in order to secure the funding needed for business activities and loan repayments. The availability and flexibility of the financing is needed to ensure the Group's financial position, as detailed in Note 1.

The maturity profile of the Group's financial liabilities based on the contractual terms is as follows:

\$'000	Less than 1 months	1 month to 6 months	Greater than 6 months	Total
<b>2018</b>				
Accounts payable	75	-	-	75
<b>2017</b>				
Accounts payable	75	-	-	75

*(c) Market risk*

*(i) Foreign currency risk*

The functional currency of the Group is the US dollar. Currency risk is the risk of loss from movements in exchange rates related to transactions and balances in currencies other than the U.S. dollar. The foreign currency denominated financial assets and liabilities are not hedged, thus the changes in fair value are charged or credited to profit and loss.

As at 31 December 2018 the foreign currency denominated assets include cash balances held in Sterling of US\$1,954,425 (2017: US\$3,720,990), other receivables denominated in Sterling of US\$89,380 (2017: US\$48,548), and payables of US\$74,723 (2017: US\$75,923) denominated in Sterling.

The following significant exchange rates applied during the year:

	Reporting date		Reporting date	
	Average rate 2018	spot rate 2018	Average rate 2017	spot rate 2017
Against US Dollars	US\$	US\$	US\$	US\$
Pounds Sterling	1.3348	1.2769	1.3404	1.3513

*(ii) Sensitivity analysis*

A 10% weakening of the following currencies against the US Dollar at 31 December 2018 would have increased/(decreased) equity and profit or loss by the amounts shown below. This calculation assumes that the change occurred at the end of each reporting period and had been applied to risk exposures existing at that date. This analysis assumes that all other variables, in particular other exchange rates and interest rates, remain constant.

	Equity 2018	Profit or loss 2018	Equity 2017	Profit or loss 2017
	US\$000	US\$000	US\$000	US\$000
Pounds Sterling	(195)	(195)	(372)	(372)

A 10% strengthening of the above currencies against the US Dollar at 31 December would have had the equal but opposite effect on the above currencies to the amounts shown above, on the basis that all other variables remain constant.

*(iii) Capital management*

The Board's policy is to maintain a stable capital base so as to maintain investor and market confidence. Capital consists of share capital and retained earnings. The Directors do not intend to declare or pay a dividend in the foreseeable future but, subject to the availability of sufficient distributable profits, intend to commence the payment of dividends when it becomes commercially prudent to do so.

The Company has a share incentive programme which is now administered by the Board. The share incentive programme is discretionary and the Board will decide whether to make share awards under the share incentive programme at any time. In Q4 2017 all then outstanding share options over already issued shares in the LTIP split interest scheme were exercised, a small number of surplus shares were distributed to beneficiaries of the Employee Benefit Trust involved in the scheme and the LTIP split interest scheme was then discontinued.

#### 14 Commitments for expenditure

The Group had no capital commitments or off-balance sheet arrangements at 31 December 2018 (31 December 2017: nil). Subsequently, in January 2019 Glencore and ZIOC signed a Funding Agreement to fund the 2019 Project Work Programme and Budget for the Project of US\$1.3m plus US\$0.13m of discretionary spend dependent on certain workstreams requiring capital. Under its terms, the Company agreed to contribute towards such work programme and budget an amount comprising US\$0.65m plus 49.99% of all discretionary items approved jointly with Glencore. Ignoring any entitlement to savings, ZIOC's potential contribution to the Project in 2019 under the 2019 Funding Agreement is US\$0.73m in total.

#### 15 Related parties

The Group's relationships with Jumelles and Glencore are described in Note 1.

The following transactions occurred with related parties during the period:

	Transactions for the period		Closing balance (payable)/receivable	
	2018 US\$000	2017 US\$000	2018 US\$000	2017 US\$000
<u>Funding:</u>				
Due from Jumelles	656	588	75	34

#### 16 Transactions with key management personnel

	2018 US\$000	2017 US\$000
Directors' fees	234	258
Total	234	258

The Directors have no material interest in any contract of significance subsisting during the financial year, to which the Group is a party.

\*\*\* End of Financial Statements \*\*\*

## Glossary

<b>Al<sub>2</sub>O<sub>3</sub></b>	Alumina (Aluminium Oxide)
<b>Fe</b>	Total Iron
<b>JORC Code</b>	The 2004 or 2012 Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves as published by the Joint Ore Reserves Committee of the Australasian Institute of Mining and Metallurgy, Australian Institute of Geoscientists and Minerals Council of Australia.
<b>LOI</b>	Loss on ignition
<b>LOM</b>	Life of mine
<b>Mineral Resource</b>	A concentration or occurrence of material of intrinsic economic interest in or on the Earth's crust in such form, quality and quantity that there are reasonable prospects for eventual economic extraction. The location, quantity, grade, geological characteristics and continuity of a Mineral Resource are known, estimated or interpreted from specific geological evidence and knowledge. Mineral Resources are sub-divided, in order of increasing geological confidence, into Inferred, Indicated and Measured categories.
<b>Mn</b>	Manganese
<b>Ore Reserve</b>	The economically mineable part of a Measured and/or Indicated Mineral Resource. It includes diluting materials and allowances for losses, which may occur when the material is mined. Appropriate assessments and studies have been carried out, and include consideration of and modification by realistically assumed mining, metallurgical, economic, marketing, legal, environmental, social and governmental factors. These assessments demonstrate at the time of reporting that extraction could reasonably be justified. Ore Reserves are sub-divided in order of increasing confidence into Probable Ore Reserves and Proved Ore Reserves. A Probable Ore Reserve has a lower level of confidence than a Proved Ore Reserve but is of sufficient quality to serve as the basis for a decision on the development of the deposit.
<b>P</b>	Phosphorus
<b>PFS</b>	Pre-feasibility Study
<b>SiO<sub>2</sub></b>	Silica

## Resource Appendix

JORC Code 2012, Table 4 for Zanaga Iron Ore Project, located in Republic of Congo, as at September 2013

### Section 1 Sampling Techniques and Data

(Criteria in this section apply to all succeeding sections.)

Criteria	JORC Code explanation	Commentary
Sampling techniques	<ul style="list-style-type: none"> <li>Nature and quality of sampling (eg cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling.</li> <li>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</li> <li>Aspects of the determination of mineralisation that are Material to the Public Report.</li> <li>In cases where 'industry standard' work has been done this would be relatively simple (eg 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (eg submarine nodules) may warrant disclosure of detailed information.</li> </ul>	<p>The deposit was sampled between 2007 and 2013 by diamond and reverse circulation ("RC") drilling on an average grid of 100 x 400 m at the northern end of the deposit and 200 x 400 m at the southern end of the deposit. The central area is more densely drilled to 100 x 200 m, 100 x 100 m and 100 x 50 m grids, with the tighter drilling east-west along the sections.</p> <p>A total of 323 diamond holes were drilled for 74,614 m and 908 RC holes for 103,439 m. Drill holes are inclined to the west typically at an angle of 60° to intercept the true thickness of mineralisation where possible. Drilling at the closest spacing give intersections around 100 x 100 m apart. The maximum number of intersections into the fresh material on any one section is 5, averaging 1-2 intersections per unit.</p> <p>The diamond core was sampled at 1 m intervals to the lithological contacts and the RC chips were sampled at 2 m intervals (with a few exceptions where samples are 1 m). A paint line on the mast allowed drillers to identify the 2 m intervals adequately.</p> <p>RC samples were split twice at the drill site using a three tier splitter to produce A and B samples, each of which represent 6.25% of the original sample. The A and B sample weights vary between 2.5 and 3.5 kg each depending on the horizon intersected. Samples A and B are then tagged and labelled.</p>

Criteria	JORC Code explanation	Commentary
		<p>Diamond drill ("DD") samples were split using a core saw or where too friable for sawing, were cut or cleaved in half.</p> <p>CSA Global (UK) Ltd ("CSA") reviewed the drilling and sampling procedures prior to the Mineral Resource Estimate ("MRE") being completed and concludes that the sampling techniques are suitable, of good practise for the style of mineralisation so as to ensure reliable and representative data is collected for downstream MRE use.</p> <p>54 RC holes were twinned by DD to validate RC data and this is described in more detail in "Verification of sampling and assaying".</p>
Drilling techniques	<ul style="list-style-type: none"> <li>Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (eg core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc).</li> </ul>	<p>DD drilling commenced using PQ or PQ3 rods to produce 85 / 83.1 mm diameter core from surface which reduced to HQ or HQ3 (63.5 / 61.1 mm diameter) and in some cases to NQ / NQ3 (47.6 / 45.1 mm diameter) with depth. All DD drilling was completed using triple tube.</p> <p>DD core was oriented by means of a Reflex ACE tool with three levels of confidence in the orientation recorded in the database, indicating high, moderate and low confidence. This enables interrogation of the oriented data using the appropriate level of confidence.</p> <p>RC holes have the bit type and bit size (mm) recorded in the database. Often a wider bit was used for the pre-collar and a smaller diameter bit for the remainder of the hole. The average depth of the PQ/PQ3 pre-collar was 50 m but varied between 14 m and 99 m, with depth being a function of the oxidation profile and depth of friable materials.</p>
Drill sample recovery	<ul style="list-style-type: none"> <li>Method of recording and assessing core and chip sample recoveries and results assessed.</li> <li>Measures taken to maximise sample recovery and ensure representative nature of the samples.</li> <li>Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential</li> </ul>	<p>DD core recoveries were recorded per drilled run by measuring the length recovered compared to the length drilled.</p>

Criteria	JORC Code explanation	Commentary
	<i>loss/gain of fine/coarse material.</i>	<p>In the competent lithologies (competent itabirite ("ITC"), transitional itabirite ("ITT") and banded iron formation ("BIF"), the core recovery was excellent with mean recoveries of 92%, 92% and 97% respectively. Recovery was poorer in the friable materials (colluvium and canga "COL", goethitic itabirite "ITG" and friable itabirite "ITF") with mean recoveries for DD core of 69% for COL, 74% for ITG and 86% for ITF. CSA did not see drilling actively take place during the site visit (the drill program had just ended), however, a review of the procedures was completed, and they state that shorter runs should be employed through the more friable material.</p> <p>For RC samples, recovery was measured by comparing the actual weight of sample drilled and the theoretical weight of the material. Of 38,645 RC samples, 38,406 had sample weights, and therefore recovery data for near 100% of data could be reviewed.</p> <p>Sample recovery for RC drilling was approximately 50%, which is considered low, particularly with respect to fresh BIF material. The reason for the low recovery is believed to be due to the presence of water in samples, with no auxiliary booster in place to keep the samples drilled at depth dry. A review of recovery by sample condition (dry, moist, wet) showed that recovery was best for dry samples. A review of Fe grade by sample condition showed good compatibility and suggests that no bias was introduced by the inclusion of moist and wet samples. However, if further drilling is conducted, CSA recommends that efforts are made to keep samples dry through the use of an auxiliary booster.</p> <p>CSA investigated the relationship between iron grade and recovery and found there was no definable relationship between recovery and grade. In addition, the comparison between DD core, where there is very good recovery and RC chips shows excellent correlation. In conclusion, the low</p>

Criteria	JORC Code explanation	Commentary
		recovery observed in RC chips does not introduce bias into the resource, and are suitable for use in the MRE.
Logging	<ul style="list-style-type: none"> <li>Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.</li> <li>Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.</li> <li>The total length and percentage of the relevant intersections logged.</li> </ul>	<p>RC chip samples were logged for lithology on 2 m intervals at the rig. Magnetic susceptibility readings were measured at the rig. All RC chips were logged for lithology and chip trays were stored to preserve the record.</p> <p>DD core was orientated and lithologically and geotechnically logged at the Mining Project Development Congo ("MPD") Camp core shed where it was also photographed. Magnetic susceptibility readings were taken.</p> <p>DD logging was completed on 1 m intervals or &lt;1 m where contacts between geological units were encountered (&lt;5% total records). All DD core was logged.</p> <p>Core was photographed on completion of logging, and prior to sampling. Pathways to core photographs are stored in the database.</p> <p>The level of information gained from the sampling is of sufficient quality and consistency to be used for the basis of Mineral Resource Estimation, mining studies and metallurgical studies.</p>
Sub-sampling techniques and sample preparation	<ul style="list-style-type: none"> <li>If core, whether cut or sawn and whether quarter, half or all core taken.</li> <li>If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.</li> <li>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</li> <li>Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.</li> <li>Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results for field duplicate/second-half sampling.</li> <li>Whether sample sizes are appropriate to the grain size of the material</li> </ul>	<p>Core was orientated and sampled on 1 m intervals. Where core was not orientated, samples are between 0.5 and 1.5 m in length. Some samples (&lt;0.3% of total number) are less than 0.5 or greater than 1.5 m in length.</p> <p>31% of DD core was split in half using a core saw and sampled along the apex of the structures in the core. 69% of DD core was quarter split, due to the requirement to retain samples for metallurgical test work. If the apex line coincided with the orientation line, the core was sampled 5 mm to the right of the line. Where half core samples were submitted for</p>

Criteria	JORC Code explanation	Commentary
	<i>being sampled.</i>	<p>preparation and analysis, the remaining half was stored for reference. Where quarter core samples were submitted for preparation and analysis, one half was available for metallurgical test work, and the remaining one quarter was stored for reference. Checks on the compatibility of sample types was completed – quarter core vs half core, chips vs core, and samples showed a very high level of correlation. Where core was too friable for sawing, it was sampled using a machete.</p> <p>The majority (98%) of RC chips were sampled at 2 m intervals. Dry RC samples were split twice at the rigs using a three tier splitter and wet samples were collected in bulk, dried in the sun, and then split by a three tier Jones Riffle splitter into approximately 3 kg samples. The sample weights were recorded at each stage of the process to enable recoveries be calculated. Original sample condition (dry, moist, wet) is recorded in the database.</p> <p>The samples were prepared at the on-site ALS Chemex facility where they were crushed to 70% passing 2 mm then split to obtain 1,000 g sample (through a 50:50 Jones riffle splitter). The 1,000 g samples were then pulverised to 85% passing 75 µm with the remaining crushed sample retained for reference purposes. 100 g of the pulp was submitted to ALS Chemex in Perth for XRF analysis. The remaining pulp was stored on site for reference. Lab standards, duplicates and blanks were reviewed and no issues were identified.</p> <p>100 g pulps were analysed on site by portable XRF using a desktop Niton. Comparison of Niton and laboratory analyses showed an excellent correlation.</p> <p>Field duplicates were sampled and analysed using both portable XRF Niton and laboratory XRF methods. They were collected at the same time as the primary sample, using the same sampling protocol and were used</p>

Criteria	JORC Code explanation	Commentary
		<p>to measure the precision of the sample preparation and analysis and results indicate that the procedures in place are working.</p> <p>The sample preparation procedures are appropriate for the iron ore mineralisation at Zanaga.</p>
Quality of assay data and laboratory tests	<ul style="list-style-type: none"> <li><i>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</i></li> <li><i>For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.</i></li> <li><i>Nature of quality control procedures adopted (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie lack of bias) and precision have been established.</i></li> </ul>	<p>The primary samples were analysed by multi-element XRF (fused disc) at ALS Chemex (Perth, Australia) for Al<sub>2</sub>O<sub>3</sub>, As, Ba, CaO, Cl, Co, Cr<sub>2</sub>O<sub>3</sub>, Cu, Fe, K<sub>2</sub>O, MgO, Mn, MnO, Na<sub>2</sub>O, Ni, P, Pb, S, SiO<sub>2</sub>, Sn, Sr, TiO<sub>2</sub>, V, Zn, Zr and Loss on Ignition at 105°C, 400°C, 650°C and 1,000°C.</p> <p>1,166 samples from the magnetite bearing material (ITC, ITT and BIF) were also analysed by Davis Tube Recovery at ALS Perth.</p> <p>A portable XRF (Niton XL3t) was used on site to collect additional oxide analyses from 100 g of the remaining pulp after sample preparation. Calibration of the machine was done at the beginning of each day. Field duplicates were used to assess the precision of the Niton results. Niton results were reviewed against laboratory assays, and were found to have an excellent correlation, but were not used in the MRE, since laboratory assays were available for all samples.</p> <p>Blanks, Field Duplicates and Certified Reference Materials ("CRMs") were used to monitor the precision and accuracy of the analytical data through insertion into the sample stream before submission to the laboratory.</p> <p>1,938 of the primary samples (approximately 2%) were analysed by XRF at umpire laboratories (Ultratrace and ALS Perth).</p> <p>Field duplicates were inserted into the sample stream at a rate of 5%, field blanks at a rate of 3.4%, CRMs at a rate of 2.5% constituting an overall 10.9% check on the original data. 17 different standards were used to cover the expected ranges of iron mineralisation. In addition, the</p>



Criteria	JORC Code explanation	Commentary
		<p>laboratory quality assurance and quality control ("QAQC") material was reviewed (17% CRMs and blanks and 13% pulp splits).</p> <p>On analysis of the results of the QAQC system CSA concluded:</p> <p>There was good correlation (correlation coefficient of 0.98) between the Niton and laboratory results.</p> <p>High analytical precision was demonstrated by good correlation between duplicate and original samples.</p> <p>Accuracy was demonstrated by the majority of CRMs.</p> <p>A small number of QC samples appeared to have been affected by contamination and misallocation of standard IDs. The proportion was small enough to be considered not material.</p> <p>The results of blanks analysis suggested that there may have been an issue of sample switching in the laboratory preparation since two samples showed noticeable contamination. Overall, the blanks performed well and showed no material contamination (noting that the field blanks were uncertified sands sourced locally).</p> <p>Overall, the laboratory procedures and analysis were considered appropriate and did not indicate bias.</p>
Verification of sampling and assaying	<ul style="list-style-type: none"> <li>The verification of significant intersections by either independent or alternative company personnel.</li> <li>The use of twinned holes.</li> <li>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</li> <li>Discuss any adjustment to assay data.</li> </ul>	Two umpire laboratories (Ultratrace and ALS Perth) were used to verify samples during the drilling campaigns. Other QAQC checks were employed as outlined above.

Criteria	JORC Code explanation	Commentary
		<p>Sampling, Logging, Niton and Data Management Procedures were documented and have been reviewed by CSA and are considered fit for purpose.</p> <p>Maria O'Connor verified logged intercepts from several DD and RC drill holes while on site. Collar locations were field checked, database spot checks conducted, and geological interpretation and review were completed during the site visit. The site visit lasted four days from 4th May until 7th May 2012 inclusive.</p> <p>Drilling had stopped during the site visits completed by CSA, and therefore, drilling procedures were not verified first hand. However, sample preparation and logging were still ongoing, and CSA verified that these were being completed as outlined in the procedures.</p> <p>The information collected from the drill site, core shed and laboratory was digitally entered and imported into DataShed software (a data management system by Maxwell GeoServices).</p> <p>54 RC holes were twinned and results were reviewed and show good correlation. No adjustments were made to the data.</p>
Location of data points	<ul style="list-style-type: none"> <li>Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.</li> <li>Specification of the grid system used.</li> <li>Quality and adequacy of topographic control.</li> </ul>	<p>Drill collars are surveyed on completion of the hole using a Total Station (Sokkia) differential GPS in the WGS84 projection and UTM coordinate system.</p> <p>The topographical survey used is a LiDAR based digital terrain model which gives a very high level of accuracy.</p> <p>Downhole surveys were recorded at the end of the hole using a gyro survey. The data was also collected at regular intervals of 2 m, 3 m or 5 m in the majority of cases. Older data recorded downhole surveys by a</p>



Criteria	JORC Code explanation	Commentary
		<p>camera shot tool at the end of the hole and at approximately 30 m intervals.</p> <p>Where drill holes collars were picked up by hand held GPS, and the difference between the surveyed RL and topography was greater than 2 m, the collars were draped onto the topography, since the reliability of a hand held GPS in the RL can be considered low.</p> <p>Where collars were <math>\pm 2</math> m from the topography, coordinates were sent to site for verification.</p> <p>The level of topographic control and accuracy of the drill hole and sample locations is suitable for the reporting of Mineral Resources.</p>
Data spacing and distribution	<ul style="list-style-type: none"> <li>• Data spacing for reporting of Exploration Results.</li> <li>• Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.</li> <li>• Whether sample compositing has been applied.</li> </ul>	<p>The deposit was sampled between 2007 and 2013 by DD and RC drilling on an average grid of 100 x 400 m at the northern end of the deposit and 200 x 400 m at the southern end of the deposit. The central area is more densely drilled to 100 x 200 m, 100 x 100 m and 100 x 50 m grids, with the tighter drilling east-west along the sections.</p> <p>The drilling pattern is sufficiently dense to interpret the geometry and boundaries of the iron mineralisation with confidence. The data quantity and distribution is considered appropriate for the reporting of Inferred, Indicated and Measured Mineral Resources.</p> <p>Samples were composited to 2 m within each of the different lithological zones for the majority of drilling, which CSA believes is appropriate given the original sample size and support of the RC and DD drilling.</p>
Orientation of data in relation to	<ul style="list-style-type: none"> <li>• Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.</li> <li>• If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a</li> </ul>	<p>The majority of the drill holes have been orientated perpendicular to the dipping lenses so that sampling bias is not introduced although the</p>

Criteria	JORC Code explanation	Commentary
geological structure	sampling bias, this should be assessed and reported if material.	<p>geometry of the iron mineralisation indicates there are faults that offset the mineralisation that are sometimes sub- parallel to the sections.</p> <p>The sampling configuration has not introduced any material bias to the grade and tonnage estimation.</p>
Sample security	<ul style="list-style-type: none"> <li>• The measures taken to ensure sample security.</li> </ul>	<p>Core samples taken from surface holes are kept in secure storage on the Zanaga camp until submission to the laboratory for analysis. The Chain of Custody is managed by Glencore Iron Ore ("Glencore") personnel on site.</p>
Audits or reviews	<ul style="list-style-type: none"> <li>• The results of any audits or reviews of sampling techniques and data.</li> </ul>	<p>CSA visited site to review and audit the drilling, logging and sampling on site in March 2012 and May 2012.</p> <p>CSA considers the sample collection and assaying techniques to be appropriate for the style of geometry and style of mineralisation and the data is suitable for use in the Mineral Resource Estimate.</p>

## Section 2 Reporting of Exploration Results

(Criteria listed in the preceding section also apply to this section.)

Criteria	JORC Code explanation	Commentary
Mineral tenement and land tenure status	<ul style="list-style-type: none"> <li>• Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.</li> <li>• The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.</li> </ul>	<p>The licences are owned by MPD, a company wholly owned by Zanaga Iron Ore Company ("ZIOC"). Glencore is majority joint venture partner with ZIOC and has effective management control of the project.</p> <p>On 14th August 2014, a mining licence was awarded over a single permit area – Zanaga – covering 499.3 km<sup>2</sup>. This mining licence replaces two exploration licences that had previously covered the same area (Zanaga-Bambama and Zanaga- Mandzoumou). The mining licence has been granted for a duration of 25 years, with options to extend as per the</p>

Criteria	JORC Code explanation	Commentary																																																																											
		<p>Mining Code of Republic of Congo. The Zanaga deposit lies wholly within the licence boundary.</p> <p>The licence name is 2014-443 and the coordinates are in the following table (extracted from the 'Permis Zanaga' mining licence document).</p> <table border="1"> <thead> <tr> <th>SOMMETS</th><th>LONGITUDES</th><th>LATITUDES</th></tr> </thead> <tbody> <tr><td>A</td><td>13° 32' 14" E</td><td>2° 27' 36" S</td></tr> <tr><td>B</td><td>13° 32' 13" E</td><td>2° 35' 22" S</td></tr> <tr><td>C</td><td>13° 34' 37" E</td><td>2° 35' 22" S</td></tr> <tr><td>D</td><td>13° 34' 37" E</td><td>2° 37' 29" S</td></tr> <tr><td>E</td><td>13° 34' 18" E</td><td>2° 37' 29" S</td></tr> <tr><td>F</td><td>13° 34' 17" E</td><td>2° 45' 31" S</td></tr> <tr><td>G</td><td>13° 34' 46" E</td><td>2° 45' 31" S</td></tr> <tr><td>H</td><td>13° 34' 46" E</td><td>2° 49' 55" S</td></tr> <tr><td>I</td><td>13° 34' 26" E</td><td>2° 49' 55" S</td></tr> <tr><td>J</td><td>13° 34' 26" E</td><td>2° 52' 34" S</td></tr> <tr><td>K</td><td>13° 35' 08" E</td><td>2° 52' 34" S</td></tr> <tr><td>L</td><td>13° 35' 08" E</td><td>2° 57' 37" S</td></tr> <tr><td>M</td><td>13° 35' 42" E</td><td>2° 57' 37" S</td></tr> <tr><td>N</td><td>13° 35' 42" E</td><td>2° 58' 40" S</td></tr> <tr><td>O</td><td>13° 38' 17" E</td><td>2° 58' 40" S</td></tr> <tr><td>P</td><td>13° 38' 17" E</td><td>2° 53' 00" S</td></tr> <tr><td>Q</td><td>13° 37' 50" E</td><td>2° 53' 00" S</td></tr> <tr><td>R</td><td>13° 37' 51" E</td><td>2° 48' 53" S</td></tr> <tr><td>S</td><td>13° 37' 21" E</td><td>2° 48' 53" S</td></tr> <tr><td>T</td><td>13° 37' 22" E</td><td>2° 40' 17" S</td></tr> <tr><td>U</td><td>13° 37' 59" E</td><td>2° 40' 17" S</td></tr> <tr><td>V</td><td>13° 38' 00" E</td><td>2° 35' 22" S</td></tr> <tr><td>W</td><td>13° 41' 35" E</td><td>2° 35' 22" S</td></tr> <tr><td>X</td><td>13° 41' 35" E</td><td>2° 27' 37" S</td></tr> </tbody> </table>	SOMMETS	LONGITUDES	LATITUDES	A	13° 32' 14" E	2° 27' 36" S	B	13° 32' 13" E	2° 35' 22" S	C	13° 34' 37" E	2° 35' 22" S	D	13° 34' 37" E	2° 37' 29" S	E	13° 34' 18" E	2° 37' 29" S	F	13° 34' 17" E	2° 45' 31" S	G	13° 34' 46" E	2° 45' 31" S	H	13° 34' 46" E	2° 49' 55" S	I	13° 34' 26" E	2° 49' 55" S	J	13° 34' 26" E	2° 52' 34" S	K	13° 35' 08" E	2° 52' 34" S	L	13° 35' 08" E	2° 57' 37" S	M	13° 35' 42" E	2° 57' 37" S	N	13° 35' 42" E	2° 58' 40" S	O	13° 38' 17" E	2° 58' 40" S	P	13° 38' 17" E	2° 53' 00" S	Q	13° 37' 50" E	2° 53' 00" S	R	13° 37' 51" E	2° 48' 53" S	S	13° 37' 21" E	2° 48' 53" S	T	13° 37' 22" E	2° 40' 17" S	U	13° 37' 59" E	2° 40' 17" S	V	13° 38' 00" E	2° 35' 22" S	W	13° 41' 35" E	2° 35' 22" S	X	13° 41' 35" E	2° 27' 37" S
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Exploration done by other parties	<ul style="list-style-type: none"> <li>Acknowledgment and appraisal of exploration by other parties.</li> </ul>	Resistivity survey work was undertaken by the United Nations Development Programme between 1967 and 1969 which reported a strong resistivity contrast between the mineralised and unmineralised lithologies.																																																																											
Geology	<ul style="list-style-type: none"> <li>Deposit type, geological setting and style of mineralisation.</li> </ul>	The mineralisation of the Zanaga deposit comprises a series of Itabirite sequences steeply dipping to the east at 60-65°.																																																																											

Criteria	JORC Code explanation	Commentary
		<p>The deposit is overprinted by a horizontal weathering profile with colluvium and canga at surface (40-60% Fe, 4-8 m), underlain by goethitic itabirite (45% Fe, 6-10 m), friable itabirite (40-45% Fe, 10-26 m), competent itabirite (35-40% Fe, 6-24 m), transition material (30-35% Fe in places, 4-12 m thick) and the primary unweathered magnetite BIF (25-30% Fe). Overall, the eastern units are higher grade than the western units.</p> <p>The geological descriptions reveal that the Canga, Colluvium and goethitic units are structureless and do not have a prominent banding in the rock which implies that the base of oxidation is at the base of the goethitic clay. Immediately below this, the units may still display some oxidation but are more similar to saprock with the original mineralised structures still visible, until the fresh BIF is reached.</p> <p>The contacts between the different weathering profiles are generally transitional over a distance of up to 5 m in places but more usually 1-2 m.</p>
Drill hole Information	<ul style="list-style-type: none"> <li>A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes: <ul style="list-style-type: none"> <li>easting and northing of the drill hole collar</li> <li>elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar</li> <li>dip and azimuth of the hole</li> <li>down hole length and interception depth</li> <li>hole length.</li> </ul> </li> <li>If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.</li> </ul>	<p>It is the Competent Person's opinion that listing this material would not add any further material understanding of the deposit and Mineral Resource. The Project is at an advanced stage of exploration, resource development and mine planning. Furthermore, no Exploration Results are specifically reported.</p> <p>However, all available drill hole data is contained in the SQL database.</p> <p>The following table summarises drilling data used in the MRE. It has been adapted from "JORC Technical Report on the September 2013 Mineral Resource Update of the Zanaga Iron Ore Project, Republic of Congo" (referred to hereafter as the "2013 JORC Technical Report").</p>

Criteria	JORC Code explanation	Commentary																																																	
		<table><tr><th rowspan="2">Area</th><th rowspan="2">Hole Type</th><th colspan="3">Total 2013 MRE Update</th></tr><tr><th># Drill holes</th><th>Metres</th><th># 2m Composites</th></tr><tr><td rowspan="2">North</td><td>DD</td><td>198</td><td>49,841</td><td>12,425</td></tr><tr><td>RC</td><td>512</td><td>63,368</td><td>18,036</td></tr><tr><td rowspan="2">Central</td><td>DD</td><td>91</td><td>19,268</td><td>3,529</td></tr><tr><td>RC</td><td>325</td><td>33,295</td><td>8,832</td></tr><tr><td rowspan="2">South</td><td>DD</td><td>34</td><td>5,504</td><td>952</td></tr><tr><td>RC</td><td>71</td><td>6,777</td><td>1,506</td></tr><tr><td rowspan="2">Total</td><td>DD</td><td>323</td><td>74,614</td><td>16,906</td></tr><tr><td>RC</td><td>908</td><td>103,439</td><td>28,374</td></tr><tr><td colspan="2">Grand Total</td><td>1,231</td><td>178,053</td><td>45,280</td></tr></table> <p>Drill holes ranged from 8 to 318 m for RC holes, and 14 to 657 m for DD holes. The average depth for RC holes was 114 m and for DD holes was 231 m.</p> <p>178,053 m of drilling was available for use in the MRE, with 74,614 m coming from 323 DD holes and 103,439 m coming from 908 RC holes.</p> <p>The vast majority of holes were drilled between 55° and 70° to the west.</p>	Area	Hole Type	Total 2013 MRE Update			# Drill holes	Metres	# 2m Composites	North	DD	198	49,841	12,425	RC	512	63,368	18,036	Central	DD	91	19,268	3,529	RC	325	33,295	8,832	South	DD	34	5,504	952	RC	71	6,777	1,506	Total	DD	323	74,614	16,906	RC	908	103,439	28,374	Grand Total		1,231	178,053	45,280
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Data aggregation methods	<ul style="list-style-type: none"><li>In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (eg cutting of high grades) and cut-off grades are usually Material and should be stated.</li><li>Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.</li><li>The assumptions used for any reporting of metal equivalent values should be clearly stated.</li></ul>	<p>Samples were composited to 2 m intervals for use in the estimation. No bottom cut for Fe was applied.</p> <p>Al<sub>2</sub>O<sub>3</sub>, SiO<sub>2</sub>, %S, %P, LOI, MnO, MgO, CaO, K<sub>2</sub>O and Na<sub>2</sub>O composite values were top-cut in some domains, where necessary.</p>																																																	
Relationship between mineralisation widths and	<ul style="list-style-type: none"><li>These relationships are particularly important in the reporting of Exploration Results.</li><li>If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.</li><li>If it is not known and only the down hole lengths are reported, there</li></ul>	<p>Drill holes are inclined to the west, typically at an angle of 60° in order to try to intercept the true thickness of mineralisation.</p>																																																	

Criteria	JORC Code explanation	Commentary
intercept lengths	should be a clear statement to this effect (eg 'down hole length, true width not known').	<p>The drilling was generally perpendicular to the geometry of the orebody. In a small number of cases, there may be sub-optimal intersections due to locally changing orientations of the orebody due to faulting and intrusions, but the proportion is considered low relative to the amount of data, and is not likely to introduce bias into the dataset.</p>
Diagrams	<ul style="list-style-type: none"><li>Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.</li></ul>	<p>Maps and sections showing the location of the mineralisation are presented in the 2013 Technical Report, which includes plan views, cross sections showing the location of the deposit, the data, interpretations, resistivity and block model.</p>
Balanced reporting	<ul style="list-style-type: none"><li>Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.</li></ul>	<p>Exploration Results are not reported here, but data used in the resource is representative of mineralisation.</p> <p>Sample intercepts have been composited so that all data is weighted equally.</p> <p>High grade outliers are managed through top cutting prior to grade estimation.</p>
Other substantive exploration data	<ul style="list-style-type: none"><li>Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.</li></ul>	<p>Resistivity surveying was undertaken between 1967 and 1969 by the United Nations Development Programme.</p> <p>A small program of down-hole geophysical logging was completed in 2012. This comprised of 29 holes. This data has not been reviewed in the context of the Mineral Resource and has therefore not been used.</p> <p>Evaluation of Landsat Enhanced Thematic Mapper Satellite and SRTM elevation data of the licence area.</p> <p>Select pitting and trenching. Detailed ground mapping.</p>

Criteria	JORC Code explanation	Commentary
		<p>Airborne magnetic survey and interpretation.</p> <p>Bulk density was measured on an ongoing basis during the drill programs using the water displacement method on billets of core. QAQC was completed on bulk density measurements through spot-checks of the bulk density dataset and re-measurement using the same procedures.</p>
Further work	<ul style="list-style-type: none"> <li>The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).</li> <li>Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.</li> </ul>	<p>The project is currently in the advanced exploration / resource development / mine planning phase.</p> <p>A figure showing the magnetic anomaly and its 47 km extent at Zanaga is presented in the 2013 JORC Technical Report. It remains partially unexplored, but no further work is planned at present.</p>

### Section 3 Estimation and Reporting of Mineral Resources

(Criteria listed in section 1, and where relevant in section 2, also apply to this section.)

Criteria	JORC Code explanation	Commentary
Database integrity	<ul style="list-style-type: none"> <li>Measures taken to ensure that data has not been corrupted by, for example, transcription or keying errors, between its initial collection and its use for Mineral Resource estimation purposes.</li> <li>Data validation procedures used.</li> </ul>	<p>Data validation procedures are in place to ensure integrity of the data in the geological database which is housed in an SQL database with inbuilt validations, constraints and triggers. Assays were merged into the database from the laboratory assay certificates.</p> <p>The drill hole data was checked for errors and validated in Datamine before modelling of the deposit. Any apparent errors were discussed with personnel on site and investigated, with the database being corrected on site, and re-exported, prior to further work.</p>
Site visits	<ul style="list-style-type: none"> <li>Comment on any site visits undertaken by the Competent Person and the outcome of those visits.</li> <li>If no site visits have been undertaken indicate why this is the case.</li> </ul>	<p>Maria O'Connor, Senior Resource Geologist, CSA, and Robyn Belcher, Principal Database Geologist, CSA, visited site on separate visits during May 2012 and March 2012 respectively. Robyn Belcher visited site</p>

Criteria	JORC Code explanation	Commentary
		<p>between 27th and 30th March 2012. During the site visit, a review and audit of the drilling, logging, sampling and data management procedures was completed.</p> <p>Malcolm Titley, Principal Consultant, CSA, and Competent Person for the MRE has not visited site. However, he supervised the site visit completed by Maria O'Connor, between 4th and 7th May 2012. Collar locations, DD core and RC chips were checked against logs, the procedure of measuring density was observed, the sample preparation procedures were observed and the sample preparation facility was inspected. The conclusions from the site visit were that sample collection procedures are to industry standard or better, and that data collected was fit for use in the MRE. Note: no drilling was observed during the site visit. The drill program for the MRE had finished in February 2012.</p>
Geological interpretation	<ul style="list-style-type: none"> <li>Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit.</li> <li>Nature of the data used and of any assumptions made.</li> <li>The effect, if any, of alternative interpretations on Mineral Resource estimation.</li> <li>The use of geology in guiding and controlling Mineral Resource estimation.</li> <li>The factors affecting continuity both of grade and geology.</li> </ul>	<p>The geological modelling of the iron-bearing zones is based on the geological logging codes of DD core and RC chips. 2D sectional interpretations of these units, snapped to drill hole intersections, were completed on drill sections at 100 and 200 m spacing along strike (over 25 km) within the defined resource area. The deposit was modelled in three contiguous blocks, termed North, Central and South.</p> <p>The majority of interpretation was completed on site and any anomalous logging was checked against chips and core.</p> <p>The mineralised units dip to the east at between 60-70°. The units have been modelled between 1 and 300 m in thickness, with the average downhole length being approximately 45 m. The northern units are the thickest, between 150 and 200 m, the central units are between 20 and 150 m, and the southern units are between 10 and 60 m in thickness. Internal waste of greater than 5 m thickness was modelled separately. In addition, the surfaces between the six material type zones were</p>



Criteria	JORC Code explanation	Commentary
		<p>generated, based on lithological logging codes, COL, ITG, ITF, ITC, ITT and BIF.</p> <p>The interpretation of colluvium differs from ITG, ITF, ITC, ITT and BIF in that mineralisation is not solely focused directly above BIF. The reason for this is that extreme weathering has mobilised it to drape over a wider area than that defined by the mineralisation wireframes. The interpretation was extended beyond the BIF units by 50 m where supported by drill data and resistivity.</p> <p>A waste surface was digitised to define sub-grade material close to surface, whose thickness was between 1 and 5 m.</p> <p>Major units were extended down to the 100 and 0 mRL based on the deepest intercept encountered along strike. Minor units, particularly in the west, which were less well supported by data, were extended to the 400 and 200 mRL.</p> <p>The continuity of grade in the other units is directly related to the continuity of the BIF units, and Fe grades decrease with depth through the various units. There are faults, some which offset or terminate mineralisation in places. There is a mapped ultramafic body that terminates mineralisation between the Central and Northern units, and several dykes are noted in the logging.</p> <p>Overall, there is good confidence in the geological interpretation of the deposit.</p>
Dimensions	<ul style="list-style-type: none"> <li>The extent and variability of the Mineral Resource expressed as length (along strike or otherwise), plan width, and depth below surface to the upper and lower limits of the Mineral Resource.</li> </ul>	<p>The MRE has a strike length of over 25 km. The depth below surface is approximately 500 to 600 m, while the plan width extent is approximately 1,200 m at its widest point, made up of several sub-parallel vertical units. Individual units range from approximately 5 to 500 m width.</p>

Criteria	JORC Code explanation	Commentary
		<p>The deepest mineralised drill intercept was at 0 mRL in the North, 180 mRL in the Central and 140 mRL in the south.</p>
Estimation and modelling techniques	<ul style="list-style-type: none"> <li>The nature and appropriateness of the estimation technique(s) applied and key assumptions, including treatment of extreme grade values, domaining, interpolation parameters and maximum distance of extrapolation from data points. If a computer assisted estimation method was chosen include a description of computer software and parameters used.</li> <li>The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data.</li> <li>The assumptions made regarding recovery of by-products.</li> <li>Estimation of deleterious elements or other non-grade variables of economic significance (eg sulphur for acid mine drainage characterisation).</li> <li>In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.</li> <li>Any assumptions behind modelling of selective mining units.</li> <li>Any assumptions about correlation between variables.</li> <li>Description of how the geological interpretation was used to control the resource estimates.</li> <li>Discussion of basis for using or not using grade cutting or capping.</li> <li>The process of validation, the checking process used, the comparison of model data to drill hole data, and use of reconciliation data if available.</li> </ul>	<p>The MRE was constrained by the wireframes as detailed in the "Geological Interpretation" section above.</p> <p>The samples within the mineralised wireframe were composited to 2 m which, given the potential bench height and average sample length is considered appropriate. No bottom cut was considered necessary for Fe. The composites were then considered for top cutting in the case of Al<sub>2</sub>O<sub>3</sub>, SiO<sub>2</sub>, %S, %P, LOI, MnO, MgO, CaO, K<sub>2</sub>O, Na<sub>2</sub>O. Anomalous values were reduced to the cut value and the pre and post capping statistics for these variables do not have a significant effect on the mean grade in the majority of cases.</p> <p>17 domains were used for estimation, divided by lithology and geographically into the west and east units. In addition, the COL domain was subdivided into a low Fe grade and high Fe grade domain, and the ITG into low Fe, moderate Fe and high grade Fe domains. The geological interpretation was central to domaining, with hard boundaries modelled between COL, ITG, ITF, ITC, ITT and BIF.</p> <p>Variography was performed on the composites. Directional variograms were modelled for Fe and were modelled for the six lithological domains. The ranges varied along strike between 650 and 2,050 m, across strike between 130 and 640 m and down dip between 9 and 82 m. All variograms were horizontally orientated, except those for the BIF which were orientated with an azimuth of 010° and a dip of -70° to the east. Variograms were modelled for Al<sub>2</sub>O<sub>3</sub>, S, P, SiO<sub>2</sub> and LOI in the COL, ITG and ITF horizons, where deleterious elements are most concentrated. The normalised Fe variogram parameters were used for interpolation of</p>

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		<p>Al<sub>2</sub>O<sub>3</sub>, SiO<sub>2</sub>, %S, %P, LOI, MnO, MgO, CaO, K<sub>2</sub>O and Na<sub>2</sub>O where variograms were not modelled in the ITC, ITT and BIF.</p> <p>The estimation was completed in Micromine Software. The block model, was not rotated and has a parent cell size of 50 m x 50 m x 10 m (X, Y, Z), which is considered compatible with the drill spacing in Measured and Indicated areas. The minimum sub-block size was set as 5 m x 5 m x 1 m to honour the volume of the wireframes more accurately. The grades were interpolated by Ordinary Kriging in three search passes with increasing search radii and decreasing minimum number of samples, including a minimum number of four holes for interpolation. The zones were interpolated with samples from the lithological code. The search ellipse for estimation was orientated in the same direction as the variograms.</p> <p>Sample search rotations and neighbourhoods are presented in the following tables.</p>																																																				
		<table><tr><th rowspan="2">Material</th><th rowspan="2">Orientation</th><th colspan="3">Axes</th></tr><tr><th>Azimuth</th><th>Plunge</th><th>Rotation</th></tr><tr><td>Colluvium</td><td>All</td><td>0</td><td>0</td><td>0</td></tr><tr><td>ITG</td><td>All</td><td>0</td><td>0</td><td>0</td></tr><tr><td>ITF</td><td>All</td><td>0</td><td>0</td><td>-36</td></tr><tr><td rowspan="7">ITC/ITT/BIF</td><td>100</td><td>5</td><td>0</td><td>-55</td></tr><tr><td>200</td><td>325</td><td>0</td><td>-45</td></tr><tr><td>300</td><td>10</td><td>0</td><td>-45</td></tr><tr><td>400</td><td>0</td><td>0</td><td>-50</td></tr><tr><td>500</td><td>350</td><td>0</td><td>-60</td></tr><tr><td>600</td><td>0</td><td>0</td><td>-50</td></tr><tr><td>700</td><td>10</td><td>0</td><td>-60</td></tr></table>	Material	Orientation	Axes			Azimuth	Plunge	Rotation	Colluvium	All	0	0	0	ITG	All	0	0	0	ITF	All	0	0	-36	ITC/ITT/BIF	100	5	0	-55	200	325	0	-45	300	10	0	-45	400	0	0	-50	500	350	0	-60	600	0	0	-50	700	10	0	-60
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		<p>was completed alongside the MRE and compared closely with the reported MRE.</p> <p>Recovery of by-products is not considered relevant for this style of deposit.</p> <p>Work completed during Variography to assess the use of the Fe variogram for other variables showed correlation with Fe varies by unit. The following table shows the correlation coefficient results of cross-validation of other variables using the Fe variogram.</p> <table><tr><th>Lith</th><th>Al<sub>2</sub>O<sub>3</sub></th><th>CaO</th><th>SiO<sub>2</sub></th><th>S</th><th>P</th><th>LOI</th><th>MnO</th><th>MgO</th><th>K<sub>2</sub>O</th><th>Na<sub>2</sub>O</th></tr><tr><td>Colluvium</td><td>0.72</td><td>0.30</td><td>0.78</td><td>0.79</td><td>0.78</td><td>0.72</td><td>0.27</td><td>0.26</td><td>0.54</td><td>0.39</td></tr><tr><td>ITG</td><td>0.79</td><td>0.20</td><td>0.86</td><td>0.84</td><td>0.64</td><td>0.82</td><td>0.45</td><td>0.34</td><td>0.61</td><td>0.17</td></tr><tr><td>ITF</td><td>0.81</td><td>0.14</td><td>0.89</td><td>0.65</td><td>0.74</td><td>0.84</td><td>0.43</td><td>0.42</td><td>0.53</td><td>0.21</td></tr><tr><td>ITC</td><td>0.79</td><td>0.73</td><td>0.91</td><td>0.52</td><td>0.68</td><td>0.81</td><td>0.57</td><td>0.65</td><td>0.60</td><td>0.69</td></tr><tr><td>ITT</td><td>0.75</td><td>0.86</td><td>0.94</td><td>0.45</td><td>0.74</td><td>0.74</td><td>0.49</td><td>0.70</td><td>0.65</td><td>0.63</td></tr><tr><td>BIF</td><td>0.75</td><td>0.81</td><td>0.95</td><td>0.49</td><td>0.81</td><td>0.69</td><td>0.80</td><td>0.73</td><td>0.69</td><td>0.65</td></tr></table> <p>The correlation between Fe and CaO, MnO and MgO is poor in certain units, and this may be related to the presence of mafic/intermediate intrusives or faulting, resulting in a different control on the distribution. Further work could be completed on this by modelling different orientations on for these variables, which would be unlikely to have a major effect on the total chemistry of the block. However, these elements do not appear to impact the overall DTR recovery and concentrate grade which counters any urgency on this work.</p>	Lith	Al <sub>2</sub> O <sub>3</sub>	CaO	SiO <sub>2</sub>	S	P	LOI	MnO	MgO	K <sub>2</sub> O	Na <sub>2</sub> O	Colluvium	0.72	0.30	0.78	0.79	0.78	0.72	0.27	0.26	0.54	0.39	ITG	0.79	0.20	0.86	0.84	0.64	0.82	0.45	0.34	0.61	0.17	ITF	0.81	0.14	0.89	0.65	0.74	0.84	0.43	0.42	0.53	0.21	ITC	0.79	0.73	0.91	0.52	0.68	0.81	0.57	0.65	0.60	0.69	ITT	0.75	0.86	0.94	0.45	0.74	0.74	0.49	0.70	0.65	0.63	BIF	0.75	0.81	0.95	0.49	0.81	0.69	0.80	0.73	0.69	0.65
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Moisture	<ul style="list-style-type: none"><li>Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.</li></ul>	The resource estimates are expressed on a dry tonnage basis and in-situ moisture content is not estimated.																																																																													
Cut-off parameters	<ul style="list-style-type: none"><li>The basis of the adopted cut-off grade(s) or quality parameters applied.</li></ul>	Grade or deleterious element cut-off was not applied in the MRE. The MRE was reported on a global basis.																																																																													

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Mining factors or assumptions	<ul style="list-style-type: none"> <li>Assumptions made regarding possible mining methods, minimum mining dimensions and internal (or, if applicable, external) mining dilution. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential mining methods, but the assumptions made regarding mining methods and parameters when estimating Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the mining assumptions made.</li> </ul>	<p>CSA undertook a preliminary Whittle optimisation on the grade model prior to classification to satisfy the criteria that the resource reported is "potentially economic". This was used to constrain the mineralisation for reporting purposes.</p> <p>Benchmarked costs were used against a selling price of 130 USD/dmtu with 5% mining dilution.</p> <p>The Whittle parameters used are listed in the 2013 JORC Technical Report and reproduced below.</p>

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		<table> <tr> <th>Revenue</th><th>units</th><th>Model</th></tr> <tr> <td>Iron price</td><td>(USDc/dmtu)</td><td>130</td></tr> <tr> <td>Government royalty</td><td>(%)</td><td>3%</td></tr> <tr> <td>Discount rate</td><td>(%)</td><td>0%</td></tr> <tr> <td><b>Mining</b></td><td></td><td></td></tr> <tr> <td>Mining recovery</td><td>(%)</td><td>95.0%</td></tr> <tr> <td>Mining Dilution</td><td>(%)</td><td>5.0%</td></tr> <tr> <td>Operation mining cost at surface (waste)</td><td>(USD/t)</td><td>1.04</td></tr> <tr> <td>Operation mining cost at surface (ore free dig)</td><td>(USD/t)</td><td>0.99</td></tr> <tr> <td>Operation mining cost at surface (ore D&amp;B)</td><td>(USD/t)</td><td>1.12</td></tr> <tr> <td>Incremental mining cost</td><td>(USD/t/10m<sub>bench</sub>)</td><td>0.025</td></tr> <tr> <td><b>Processing</b></td><td></td><td></td></tr> <tr> <td>Hematite processing cost</td><td>(USD/t<sub>ore</sub>)</td><td>3.11</td></tr> <tr> <td>Magnetite processing cost</td><td>(USD/t<sub>ore</sub>)</td><td>2.41</td></tr> <tr> <td>Tailing cost</td><td>(USD/t<sub>tailings</sub>)</td><td>0.99</td></tr> <tr> <td>Total Hematite Processing Cost</td><td>(USD/t<sub>ore</sub>)</td><td>3.66</td></tr> <tr> <td>Total Magnetite Processing Cost</td><td>(USD/t<sub>ore</sub>)</td><td>3.07</td></tr> <tr> <td>General &amp; administrative cost</td><td>(USD/t<sub>ore</sub>)</td><td>0.29</td></tr> <tr> <td>Transport</td><td>(USD/t<sub>conc</sub>)</td><td>5.84</td></tr> <tr> <td>Port</td><td>(USD/t<sub>conc</sub>)</td><td>1.06</td></tr> <tr> <td>Total Transport</td><td>(USD/t<sub>ore</sub>)</td><td></td></tr> <tr> <td>Total Transport Hematite</td><td>(USD/t<sub>ore</sub>)</td><td>3.09</td></tr> <tr> <td>Total Transport Magnetite</td><td>(USD/t<sub>ore</sub>)</td><td>2.32</td></tr> <tr> <td>Total Cost Hematite</td><td>(USD/t<sub>ore</sub>)</td><td>7.04</td></tr> <tr> <td>Total Cost Magnetite</td><td>(USD/t<sub>ore</sub>)</td><td>5.68</td></tr> <tr> <td>COL Fe recovery</td><td>(%)</td><td>59.2%</td></tr> <tr> <td>ITG Fe recovery</td><td>(%)</td><td>72.4%</td></tr> <tr> <td>ITF Fe recovery</td><td>(%)</td><td>69.9%</td></tr> <tr> <td>ITC Fe recovery</td><td>(%)</td><td>53.3%</td></tr> <tr> <td>ITT Fe recovery</td><td>(%)</td><td>65.1%</td></tr> <tr> <td>BIF Fe recovery</td><td>(%)</td><td>74.8%</td></tr> </table>	Revenue	units	Model	Iron price	(USDc/dmtu)	130	Government royalty	(%)	3%	Discount rate	(%)	0%	<b>Mining</b>			Mining recovery	(%)	95.0%	Mining Dilution	(%)	5.0%	Operation mining cost at surface (waste)	(USD/t)	1.04	Operation mining cost at surface (ore free dig)	(USD/t)	0.99	Operation mining cost at surface (ore D&B)	(USD/t)	1.12	Incremental mining cost	(USD/t/10m <sub>bench</sub> )	0.025	<b>Processing</b>			Hematite processing cost	(USD/t <sub>ore</sub> )	3.11	Magnetite processing cost	(USD/t <sub>ore</sub> )	2.41	Tailing cost	(USD/t <sub>tailings</sub> )	0.99	Total Hematite Processing Cost	(USD/t <sub>ore</sub> )	3.66	Total Magnetite Processing Cost	(USD/t <sub>ore</sub> )	3.07	General & administrative cost	(USD/t <sub>ore</sub> )	0.29	Transport	(USD/t <sub>conc</sub> )	5.84	Port	(USD/t <sub>conc</sub> )	1.06	Total Transport	(USD/t <sub>ore</sub> )		Total Transport Hematite	(USD/t <sub>ore</sub> )	3.09	Total Transport Magnetite	(USD/t <sub>ore</sub> )	2.32	Total Cost Hematite	(USD/t <sub>ore</sub> )	7.04	Total Cost Magnetite	(USD/t <sub>ore</sub> )	5.68	COL Fe recovery	(%)	59.2%	ITG Fe recovery	(%)	72.4%	ITF Fe recovery	(%)	69.9%	ITC Fe recovery	(%)	53.3%	ITT Fe recovery	(%)	65.1%	BIF Fe recovery	(%)	74.8%
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Metallurgical factors or assumptions	<ul style="list-style-type: none"> <li>The basis for assumptions or predictions regarding metallurgical amenability. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential metallurgical methods, but the assumptions regarding metallurgical treatment processes and parameters made</li> </ul>	Davis Tube Recovery test work was completed on 1,166 samples which covered ITC, ITT and BIF (the magnetite bearing lithologies). Bench scale grind-recovery tests were completed to determine the optimum grind size required to produce a saleable quality magnetite concentrate. Based																																																																																													

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	<p>when reporting Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the metallurgical assumptions made.</p>	<p>on this test work, samples have a P97 of 75 microns with an expected P80 of 45 microns. The average mass recovery for the samples was 41% for a recovered concentrate grade of 68%.</p> <p>More detail has been provided in Section 4 Estimation and Reporting of Ore Reserves, which was reported in the Updated Reserve Statement for Zanaga Iron Ore Project, 30th September 2014.</p>
Environmental factors or assumptions	<ul style="list-style-type: none"> <li>Assumptions made regarding possible waste and process residue disposal options. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider the potential environmental impacts of the mining and processing operation. While at this stage the determination of potential environmental impacts, particularly for a greenfields project, may not always be well advanced, the status of early consideration of these potential environmental impacts should be reported. Where these aspects have not been considered this should be reported with an explanation of the environmental assumptions made.</li> </ul>	Detail regarding Environmental factors or assumptions has been provided in Section 4 Estimation and Reporting of Ore Reserves, which was reported in the Updated Reserve Statement for Zanaga Iron Ore Project, 30th September 2014.
Bulk density	<ul style="list-style-type: none"> <li>Whether assumed or determined. If assumed, the basis for the assumptions. If determined, the method used, whether wet or dry, the frequency of the measurements, the nature, size and representativeness of the samples.</li> <li>The bulk density for bulk material must have been measured by methods that adequately account for void spaces (vugs, porosity, etc), moisture and differences between rock and alteration zones within the deposit.</li> <li>Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.</li> </ul>	<p>In-situ dry bulk density measurements were estimated from DD core using the water displacement method which is considered appropriate for the characteristics of the majority of mineralisation at Zanaga i.e. competent core with very low permeability. Core was coated in wax as part of the procedures.</p> <p>In-situ dry bulk density ("BD") data was collected in a systematic way throughout the deposit and there is a substantial dataset from all material types to adequately ascertain the tonnage factor and be considered representative of the deposit. 21,451 BD values were available and BD values less than 1.5 t/m<sup>3</sup> and greater than 4.0 t/m<sup>3</sup> were removed as outliers in the dataset.</p> <p>CSA reviewed density by grade and by lithology unit and results suggested that variations in bulk density were most sensitive to lithology.</p>



Criteria	JORC Code explanation	Commentary
		<p>Variability was low within lithological units, and there was no obvious relationship between grade and density within these units. Where density was a function of grade, it appeared to be with depth, which correlated to lithological boundaries.</p> <p>CSA assigned densities by lithology unit. Other methods of estimating density were considered e.g. regression and block estimation. On balance, CSA decided to assign average densities due to the lack of variability within lithological units. Regressions can be strongly influenced by the existence of outliers, while estimation of density through Kriging for example, can result in problems during production and reconciliation.</p> <p>Where lithologies are more friable, and likely to crumble when cored during DD drilling, densities may be difficult to verify. The volume of such material is a relatively small proportion of the resource but in situ dry bulk density can be estimated for bulk samples obtained during any small scale excavations for mining or metallurgical test work. Simple volume and mass checks should be taken and bulk density values compared with those already produced.</p>
Classification	<ul style="list-style-type: none"> <li>The basis for the classification of the Mineral Resources into varying confidence categories.</li> <li>Whether appropriate account has been taken of all relevant factors (ie relative confidence in tonnage/grade estimations, reliability of input data, confidence in continuity of geology and metal values, quality, quantity and distribution of the data).</li> <li>Whether the result appropriately reflects the Competent Person's view of the deposit.</li> </ul>	<p>The MRE for the Zanaga Project has been classified as Measured, Indicated and Inferred Mineral Resources, based on the guidelines specified in the JORC Code (2012 Edition). CSA has considered the following in determining the classification of the MRE:</p> <ul style="list-style-type: none"> <li>Adequate validation of drilling, sampling and geological process completed during two site visits by Robyn Belcher, Principal Data Geologist, and Maria O'Connor, Senior Resource Geologist, CSA, in March and May 2012. The site visits included validation of tenement data, drill data, drilling and sampling procedures (note: no drilling was taking place during either visit), review of the</li> </ul>

Criteria	JORC Code explanation	Commentary
		<p>geological mapping and core/chip logging and field checks on existing hole collars and outcrop;</p> <ul style="list-style-type: none"> <li>Adequate geological evidence for continuity of mineralisation in the reporting of the mineral resource;</li> <li>Completion of a sampling and multi element assaying program suitable to estimate the grade of the mineralised material;</li> <li>Adequate DD core and RC chip sampling;</li> <li>Adequate QAQC controls in place to validate data used and ensure control on the estimation of the in-situ grade of mineralised material;</li> <li>Adequate drill spacing nominally at 100 m east-west and 100 m north-south to define Measured material, 200 m east-west and 200 m north-south to define Indicated material and a whittle shell to assist in constraining what deep material is classified as Inferred Mineral resources;</li> <li>Robust variography with good cross validation results which supported the ranges of Fe grade continuity indicated by drilling as well as the continuity of Al<sub>2</sub>O<sub>3</sub>, SiO<sub>2</sub>, S, P and LOI in COL, ITG and ITF where variability in these deleterious variables are likely to be at their highest;</li> <li>Adequate twinning of RC drill holes to validate grades;</li> <li>Adequate DD core sampling to determine the dry in situ bulk density in order to estimate the tonnage of mineralisation;</li> <li>Completion of Davis Tube Recovery test work demonstrating the potential processing requirements, indicative recovery factors</li> </ul>

Criteria	JORC Code explanation	Commentary
		<p>and potential quality of a saleable magnetite concentrate suggesting that Fe can be recovered from the lithology units with minimal contaminant issues.</p> <p>The additional criteria used to classify this MRE as Indicated and Measured Mineral Resources were:</p> <p>For Indicated Mineral Resources:</p> <ul style="list-style-type: none"> <li>Block grade estimated using an average sample distance of between 100 and 200 m;</li> <li>Slope &gt;0.4.</li> </ul> <p>For Measured Mineral Resources:</p> <ul style="list-style-type: none"> <li>Block grade estimated using an average sample distance <math>\leq</math> 100 m;</li> <li>Slope &gt;0.6.</li> </ul> <p>Block-by-block estimates of slope were smoothed into geologically reasonable and coherent zones that reflect a realistic level of geological and grade estimation confidence taking into account the amount, distribution and quality of data by wireframing.</p> <p>The remaining blocks have been classified as Inferred Mineral Resources if:</p> <ul style="list-style-type: none"> <li>they are within the resource shell guided by the whittle optimisation; and</li> </ul>

Criteria	JORC Code explanation	Commentary
		<ul style="list-style-type: none"> <li>they do not meet the criteria specified above for Indicated or Measured Mineral Resources.</li> </ul> <p>The only exception to point (a) are units close to the surface, namely COL, ITG and ITF, which fall outside the conceptual pit shell, but have been included in the MRE as Inferred Mineral resources. CSA is satisfied that the shallow nature of these units means that these units can be considered as having potential to be economically extracted, as required under JORC (2012) and therefore satisfy the criteria of being included as resources in the MRE.</p> <p>The classification of the MRE reflects the Competent Person's view of the deposit</p>
Audits or reviews	<ul style="list-style-type: none"> <li>The results of any audits or reviews of Mineral Resource estimates.</li> </ul>	<p>In house CSA reviews have been conducted prior to the release of the MRE to Glencore.</p> <p>SRK completed a review of the MRE prior to work commencing on the estimation of ore reserves. This is outlined in JORC Table 1 Section 4 Estimation and Reporting of Ore Reserves, reported in the Updated Reserve Statement for Zanaga Iron Ore Project, 30th September 2014.</p>
Discussion of relative accuracy/confidence	<ul style="list-style-type: none"> <li>Where appropriate a statement of the relative accuracy and confidence level in the Mineral Resource estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the resource within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors that could affect the relative accuracy and confidence of the estimate.</li> <li>The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used.</li> <li>These statements of relative accuracy and confidence of the</li> </ul>	<p>The MREs have been prepared, classified and reported in accordance with the JORC (2012) code by CSA.</p> <p>Resource modelling has been completed using drilling data and geological interpretation to produce a resource within a lithological boundary (and therefore at a 0% Fe cut-off).</p> <p>The total Mineral Resource (as at 30th September 2013) comprises 2.33 Bt of Measured Mineral Resources at 33.7% Fe, 2.46 Bt of Indicated</p>

Criteria	JORC Code explanation	Commentary
	<i>estimate should be compared with production data, where available.</i>	<p>Mineral Resources at 30.4% Fe and 2.1 Bt of Inferred Mineral Resources at 31.0% Fe.</p> <p>The risks with respect to grade variability are considered low due to the low variability of Fe grade particularly in the magnetite bearing material where the majority of the resource lies.</p> <p>The confidence level is reflected in the MRE classification of the resource.</p> <p>If excavations are completed to estimate in-situ dry bulk density, particularly in the friable, less competent hematite units (representing 11% of the M&amp;I material), this information can be used to verify the density data used in the MRE. The high level of drilling density and modelling of the deposit show its geological and grade continuity and provides a high level of confidence for the MRE.</p> <p>Mining of the deposit has not commenced and therefore production data is not available.</p> <p>The MRE models are provided as a basis for long term planning and mine design, and are not designed to be sufficient for short term planning and scheduling.</p>

## Reserve Appendix

JORC Code, 2012 Edition Table 4 for Zanaga Iron Ore Project, located in Republic of Congo, as at September 2013

Criteria	JORC Code explanation	Commentary
<b>Mineral Resource estimate for conversion to Ore Reserves</b>	<ul style="list-style-type: none"> <li>Description of the Mineral Resource estimate used as a basis for the conversion to an Ore Reserve.</li> <li>Clear statement as to whether the Mineral Resources are reported additional to, or inclusive of, the Ore Reserves.</li> </ul>	<p>The Mineral Resources were estimated by CSA global and this is detailed in “<i>JORC Technical Report on the August 2012 Mineral Resource Update, Zanaga Iron Ore Project, Republic of Congo for Xstrata Iron Ore</i>” authored by Malcom Titley and Maria O’Connor of CSA Global.</p> <p>The Mineral Resources are reported inclusive of the Ore Reserves.</p>
<b>Site visits</b>	<ul style="list-style-type: none"> <li>Comment on any site visits undertaken by the Competent Person and the outcome of those visits.</li> <li>If no site visits have been undertaken indicate why this is the case.</li> </ul>	A site visit was undertaken by the Competent Person in January 2014.
<b>Study status</b>	<ul style="list-style-type: none"> <li>The type and level of study undertaken to enable Mineral Resources to be converted to Ore Reserves.</li> <li>The Code requires that a study to at least Pre-Feasibility Study level has been undertaken to convert Mineral Resources to Ore Reserves. Such studies will have been carried out and will have determined a mine plan that is technically achievable and economically viable, and that material Modifying Factors have been considered.</li> </ul>	<p>The Feasibility Study (2014) assessed three different production options. The study level varies between pre-feasibility and feasibility for the various study disciplines.</p> <p>The deposit had two pre-feasibility study options completed in 2010 and 2012 which evaluated product rates of 45Mtpa and 30Mtpa respectively.</p>
<b>Cut-off parameters</b>	<ul style="list-style-type: none"> <li>The basis of the cut-off grade(s) or quality parameters applied.</li> </ul>	<p>A variable Fe head grade cut-off has been applied by each lithology:</p> <p>COL – 30%Fe (Processing Cut-Off)</p> <p>ITG – 11%Fe (Economic Cut-Off)</p> <p>ITF – 8%Fe (Economic Cut-Off)</p> <p>ITC – 9%Fe (Economic Cut-Off)</p> <p>ITT – 15%Fe (Processing Cut-Off)</p> <p>BIF – 15%Fe (Processing Cut-Off)</p>
<b>Mining factors or assumptions</b>	<ul style="list-style-type: none"> <li>The method and assumptions used as reported in the Pre-Feasibility or Feasibility Study to convert the Mineral Resource to an Ore Reserve (i.e. either by application of appropriate factors by optimisation or by preliminary or detailed design).</li> <li>The choice, nature and appropriateness of the selected mining method(s) and other mining parameters including associated design issues such as pre-strip, access, etc.</li> <li>The assumptions made regarding geotechnical parameters (eg pit slopes, stope sizes, etc), grade control and pre-production drilling.</li> <li>The major assumptions made and Mineral Resource model used for pit and stope optimisation (if appropriate).</li> <li>The mining dilution factors used.</li> <li>The mining recovery factors used.</li> <li>Any minimum mining widths used.</li> <li>The manner in which Inferred Mineral Resources are utilised in mining studies and the sensitivity of the outcome to their inclusion.</li> <li>The infrastructure requirements of the selected mining methods.</li> </ul>	<p><b>Geotechnics</b></p> <p>Weathered Rock (pit depth &lt; 30m) – 35° OSA (overall slope angle)</p> <p>Weathered Rock (pit depth &gt;30m) – 30 ° OSA</p> <p>Footwall Fresh Rock – 40 ° OSA</p> <p>Hangingwall Fresh Rock – 50 ° OSA</p> <p>The geotechnical design criteria for the pit slopes are considered to be at a Feasibility Study level.</p> <p><b>Grade Control</b></p> <p>Standard blasthole sampling will be used for grade control. No material pre-production drilling has been planned.</p> <p><b>Hematite - Stage 1</b></p> <p>The proposed mining method is a standard truck and shovel method on a 5m bench height. Drill and blast is only required at the ITC lithological boundary. Overland conveyors are required to transport ore from the four main mining areas to the plant.</p> <p>The resource model was regularized to a selective mining unit of 10m by 10m by 5m resulting in overall mining loss and dilution</p>

Criteria	JORC Code explanation	Commentary
		<p>modifying factors of 1% and 6% respectively for the COL, ITG, ITF and ITC lithologies.</p> <p>The Ore Reserves are reported within a pit design which is based on a pit optimisation using a US\$121/dmtu metal price when constrained to the hematite material. It is noted that there is no material increase in pit size above the US\$80/dmtu revenue factor. The pit optimisation was run inclusive of Measured, Indicated and Inferred Classified Mineral Resources. The Inferred Classified Mineral Resources represent approximately 12% of the ore within the Stage 1 pit design.</p> <p>The pits have been designed to a minimum bench width of 30m to accommodate a maximum truck size of 130t capacity.</p> <p>The stage 1 plan includes Measured, Indicated and Inferred Classified Mineral Resources. The Inferred Classified material accounts for 1.2% (3Mt), 2.2% (7Mt) and 25.1% (115Mt) of the ex-pit classified plant feed for years 0 to 10, 11 to 20 and 21 to year respectively. The exclusion of the Inferred Classified Mineral Resources in the financial model does not have a material difference to the project value.</p> <p><b>Magnetite - Stage 2</b></p> <p>The proposed mining method is a standard truck and shovel method on a 15m bench height. Drill and blast is required. Overland conveyors are required to transport ore from the four main mining areas to the plant.</p> <p>Global modifying factors of 5% and 5% have been applied for mining loss and dilution for the ITT and BIF lithologies. These global factors are reflective of the estimated losses and dilution modelled for the Zanaga Pre-Feasibility study in the North Region at a 15m bench height. No grade modifications have been made to the deleterious elements.</p> <p>The Ore Reserves are reported within a US\$33/dmtu pit shell constrained to the North Region. The pit optimization was run inclusive of Measured and Indicated Classified Mineral Resources. There are no material quantities of Inferred Classified Mineral Resources within the Stage 2 pit shell.</p> <p>The pre-feasibility study (2012) demonstrated that there is no material difference in ore and waste tonnages when the engineered pit is compared with the optimized pit shell. It is expected that an engineered design for the magnetite phase would not have a material impact on the pit shell ore and waste tonnages.</p> <p>The stage 2 plan only includes Measured and Indicated Classified Mineral Resources.</p>
<b>Metallurgical factors or assumptions</b>	<ul style="list-style-type: none"> <li><i>The metallurgical process proposed and the appropriateness of that process to the style of mineralisation.</i></li> <li><i>Whether the metallurgical process is well-tested technology or novel in nature.</i></li> <li><i>The nature, amount and representativeness of metallurgical test work undertaken, the nature of the metallurgical domaining applied and the corresponding metallurgical recovery factors applied.</i></li> <li><i>Any assumptions or allowances made for deleterious elements.</i></li> <li><i>The existence of any bulk sample or pilot scale test work and the degree to which such samples are considered</i></li> </ul>	<p><b>Hematite Circuit (Stage 1):</b></p> <p>The hematite beneficiation circuit is based on gravity separation using spirals, with a supplementary recovery stage using flotation. This is a well-tested technology.</p> <p>Ore is crushed and then milled using SAG mills to -0.6mm, following which it is de-slimes (slimes to tailings), then split into Coarse and Fine fractions, with each fraction subjected to two stages (rougher and cleaner) of spiral separation. The spiral stages produce Concentrate, Tailings (from the rougher stage) and Middlings (rougher middlings plus cleaner tailings). The Middlings are reground (coarse stream only) to -0.25mm then subjected to a</p>

Criteria	JORC Code explanation	Commentary
	<p><i>representative of the orebody as a whole.</i></p> <ul style="list-style-type: none"> <li>• <i>For minerals that are defined by a specification, has the ore reserve estimation been based on the appropriate mineralogy to meet the specifications?</i></li> </ul>	<p>further two stage spiral circuit, again producing Concentrate, Tailings and Middlings.</p> <p>These Middlings are further reground (to 65µm) and de-slimed (slimes to tailings), with the de-slimed material subjected to reverse flotation for silica rejection. Flotation produces Concentrate and Tailings. The combined Concentrate streams are further reground to meet the requirements of the slurry pipeline.</p> <p>Testwork has been undertaken in support of the development of the proposed flowsheet. However, SRK considers that the level of testwork undertaken and reported is deficient with regard to the following aspects:</p> <ul style="list-style-type: none"> <li>• Gravity separation testwork has been undertaken using shaking tables, which provide a close but not exact reproduction of the performance of spirals. In addition, the tabling work was undertaken on a "whole" sample, i.e. not in a Coarse / Fine configuration, and the entire middlings stream was reground. For a Feasibility Study level of investigation, SRK would expect a spiral pilot plant to have been undertaken. The Glencore FS report refers to some preliminary spiral work as being in progress, but no results of such a program are reported.</li> <li>• Only a small number of bench scale flotation tests have been undertaken. While these were reasonably successful, the flowsheet envisages feeding much lower grade material to the flotation circuit than was tested, and the estimated mass recoveries to the floated phase are very high as a proportion of the feed material. SRK therefore expects that the flotation performance may be less successful than is being assumed. In addition, SRK notes that the flotation stage recoveries assume a constant figure irrespective of lithology type and head grade. Again, particularly given the extrapolation from testwork to the plant design criteria, SRK would expect to see much more testwork having been conducted to support a FS level of investigation. However, SRK notes that the contribution of the flotation stage to the overall product is small.</li> <li>• Limited SAG mill testwork has been undertaken and the results indicate larger sized SAG mills than planned may be required. Additional testwork will be required prior to finalizing the mill sizing during basic engineering.</li> </ul> <p>The methodology used to develop the operating cost for the Stage 1 beneficiation plant is appropriate for a FS. However, given the uncertainty over the specification of the SAG mills, and given that (a) power is the largest contributor to the operating cost and (b) the largest power consumers in the plant are the SAG mills, SRK believes that sufficient contingency should be added to the financial evaluation to reflect the precision of the operating cost estimate.</p> <p>Regression relationships have been developed between Fe head grade and Fe recovery for the three lithology types that represent the Phase 1</p>



Criteria	JORC Code explanation	Commentary
		<p>feed to the Stage 1 plant (COL, ITG and ITF). These relationships appear to be reasonable based on the testwork conducted, bearing in mind the use of a constant recovery figure used for the flotation stage. However, a constant Fe recovery of 70% is assumed for the ITC lithology type, which is a key component of the Phase 2 operation of the Stage 1 plant. This recovery figure is not well supported by testwork data.</p> <p><b>Magnetite circuit (Stage 2):</b></p> <p>The magnetite beneficiation circuit assumes a conventional magnetite separation configuration based on the use of sequential stages of wet Low Intensity Magnetic Separation (LIMS). This is well tested technology.</p> <p>The flowsheet envisages three stages of grinding, each followed by a stage of LIMS. The first grinding stage will be using AG mills, the second using pebble mills, and the third using a ultrafine grinding mill, such that the feed to the third stage of LIMS is already of a size suitable for slurry pipeline transportation.</p> <p>The Stage 2 plant design is only at a PFS stage of investigation and cost estimation. SRK concurs with this assessment; the previous study into the processing of this material utilised a different flowsheet, and so the testwork used to support the proposed flowsheet uses relatively basic Davis Tube Test results. However, this type of testwork is appropriate for magnetite ores, certainly up to a PFS level of investigation.</p> <p>Constant Fe recovery figures have been used for the two Magnetite Circuit lithology types: 75% for ITT and 80% for BIF. The Davis Tube Test results reported indicate that a non-linear relationship is more appropriate, however as an average figure, the figure of 80% for the BIF material is probably reasonable. The Glencore FS report notes that the 75% figure assumed for the ITT material is "now considered too aggressive", however given that the ITT material represents only 12% of the planned Stage 2 ore feed (the remainder being the BIF material), the overall impact of the difference between the assumed figure of 75% and a more reasonable "flat line" figure of the order of 70% is probably not material.</p>
<b>Environmental</b>	<ul style="list-style-type: none"> <li><i>The status of studies of potential environmental impacts of the mining and processing operation. Details of waste rock characterisation and the consideration of potential sites, status of design options considered and, where applicable, the status of approvals for process residue storage and waste dumps should be reported.</i></li> </ul>	<p>An ESIA for the project has been undertaken and the ESIA report was submitted to the regulatory authorities in early 2014 for review and approval. Receipt of the environmental permit is a prerequisite to receipt of the mining licence.</p> <p>The ESIA states that the underlying rocks do not contain compounds with acid generation potential, and therefore the risk of acid rock drainage or metals leaching is unlikely. Separate environmental approvals for waste storage facilities are not currently required in the Republic of Congo.</p>
<b>Infrastructure</b>	<ul style="list-style-type: none"> <li><i>The existence of appropriate infrastructure: availability of land for plant development, power, water, transportation (particularly for bulk commodities), labour, accommodation; or the ease with which the infrastructure can be provided, or accessed.</i></li> </ul>	<p><b>Infrastructure</b></p> <p>A series of terraced plateaux are required to support the proposed mine site infrastructure, which will be expanded to match the increase in production. Run of mine will be transported by overland conveyor to the beneficiation and concentrate slurry batching plant.</p>

Criteria	JORC Code explanation	Commentary
		<p>The RoC government will be responsible for developing all local, diversion and access roads.</p> <p>During Stage 1, 12Mtpa of concentrate will be transported by a 367km long slurry pipeline to a new port facility 30km from Pointe Noire. A second slurry pipeline will be required to transport the additional 18Mtpa of concentrate during Stage 2.</p> <p>Raw and processing water will be drawn from a series of surface water attenuation reservoirs, recycling within the process circuit and reclamation from the tailings storage facilities. Package water treatment and waste water plants will be provided to supply drinking water and treat foul water.</p> <p>Labour will be predominantly sourced from within RoC with requirements for expatriates planned to reduce over the initial 11 years of operation. Dedicated workforce camps will be provided at the mine and port sites.</p> <p>Two 158km and 200km long, 220kV transmission lines will connect the mine site with existing national power infrastructure. There is sufficient existing generation capacity to support Stage 1, although daily blackouts present a project risk. Additional generation capacity is required to support Stage 2. The RoC power authority will be responsible for all power infrastructure capital investment.</p> <p>At the port site, following dewatering activities, concentrate will be stored in conventional open stockyards.</p> <p>During Stage 1, concentrate will be transported along a 625m long jetty and loaded onto 12,500DWT transshipment vessels, protected by a detached 385m long breakwater. Transshipment operations will load 250,000DWT Capsize ocean going vessels approximately 3 nautical miles from shore.</p> <p>To support direct loading of 250,000DWT vessels during Stage 2, the jetty will be extended by 1.33km, with additional capital dredging required to create an approach channel and turning basin. Dewatering and stockyard infrastructure will also be expanded.</p> <p>During operation all spares and consumables will be received at the existing PAPN port and transported to the mine site by road.</p> <p>There is an opportunity to export 2 to 6 Mtpa of DSO during Stage 1 using road haulage, existing rail infrastructure and a new berth at existing PAPN port. This opportunity has not been considered in depth and is dependent upon access to existing rail infrastructure.</p> <p><b>Tailings</b></p> <p>The first cell within the facility (TMF 1) will be developed in the catchment area located immediately west of the plant site. This will provide sufficient storage for 295Mt of tailings over the first 15 years of operations.</p> <p>The second tailings dam (TMF 2) will be constructed during Year 15 of operations, thus allowing deposition to commence in this area at year 16. This area will provide storage for a total of 369Mt of tailings.</p> <p>The stage 2 option involves deposition of 295Mt in TSF 1 over a period of 12 years and follows the same initial sequence as stage 1. Upon reaching full capacity, deposition will switch to a new cell (TSF 3) located to the west</p>



Criteria	JORC Code explanation	Commentary												
		of the northern extent of the mineralised zone. Previously called the ‘North TSF Option’ (SRK, 2010), this catchment will be developed due to the proximity to a second plant (Plant 2), which will be commissioned as part of the expanded case. The remaining 1,043Mt of tailings will be stored in TSF 3, which will be raised to a maximum elevation of 596.5mRL.												
Costs	<ul style="list-style-type: none"><li><i>The derivation of, or assumptions made, regarding projected capital costs in the study.</i></li><li><i>The methodology used to estimate operating costs.</i></li><li><i>Allowances made for the content of deleterious elements.</i></li><li><i>The source of exchange rates used in the study.</i></li><li><i>Derivation of transportation charges.</i></li><li><i>The basis for forecasting or source of treatment and refining charges, penalties for failure to meet specification, etc.</i></li><li><i>The allowances made for royalties payable, both Government and private.</i></li></ul>	<p>Capital and operating costs have been estimated for both Stage 1 and Stage 2 of the project for a 30 year project period to achieve a 30 Mtpa product rate. The capital costs are estimated in USD with a Q1 2014 base date. Estimations of project capital costs are based on first principals build up. Some cost estimates from the previous ZIOP PFS’s have been escalated and incorporated into the FS.</p> <p>Adjustments have been made to the IODEX 62% pricing to include a Fe unit and quality adjustment for the two products.</p> <p>Transport changes are based on the slurry pipeline, port and transshipping operating costs.</p> <p>All costs and revenues have been estimates in USD using the following exchange rates:</p> <table><tr><td>GBP</td><td>UK Pound</td></tr><tr><td>EUR</td><td>Euro</td></tr><tr><td>CHF</td><td>Swiss Franc</td></tr><tr><td>AUD</td><td>Australian Dollar</td></tr><tr><td>XAF</td><td>CFA Franc</td></tr><tr><td>ZAR</td><td>SA Rand</td></tr></table> <p>A 3% royalty on revenues is payable to the government.</p> <p>The government maintains 10% free carry equity in the project.</p>	GBP	UK Pound	EUR	Euro	CHF	Swiss Franc	AUD	Australian Dollar	XAF	CFA Franc	ZAR	SA Rand
GBP	UK Pound													
EUR	Euro													
CHF	Swiss Franc													
AUD	Australian Dollar													
XAF	CFA Franc													
ZAR	SA Rand													
Revenue factors	<ul style="list-style-type: none"><li><i>The derivation of, or assumptions made regarding revenue factors including head grade, metal or commodity price(s) exchange rates, transportation and treatment charges, penalties, net smelter returns, etc.</i></li><li><i>The derivation of assumptions made of metal or commodity price(s), for the principal metals, minerals and co-products.</i></li></ul>	<p>Long term price assumptions used in the optimisation of the mining study, as at May 2014, were based on an IODEX 62%Fe forecast of US\$100/t<sub>dry</sub> (US\$162/dmtu at 62%Fe) with adjustments for quality, deleterious elements, moisture and freight. Freight costs of approximately US\$22.50/t<sub>wet</sub> were used to determine FOB pricing from RoC to China (Qingdao).</p> <p>The June 2016 financial evaluation is based on reduced long term CFR iron ore price forecasts of US\$60/t<sub>dry</sub> at 62%Fe with adjustments for quality, deleterious elements, moisture and freight to support the Ore Reserve. Freight costs of US\$10.50/t<sub>wet</sub> have been used to determine FOB pricing from RoC to China (Qingdao). Allowances for Fe unit premiums, quality adjustments and moisture adjustments result in an average FOB selling price assumption of:</p> <ul style="list-style-type: none"><li>US\$54.20/tdry for concentrate from hematite; and</li><li>US\$56.80/tdry for concentrate from magnetite.</li></ul>												
Market assessment	<ul style="list-style-type: none"><li>The demand, supply and stock situation for the particular commodity, consumption trends and factors likely to affect supply and demand into the future.</li><li>A customer and competitor analysis along with the identification of likely market windows for the product.</li><li>Price and volume forecasts and the basis for these forecasts.</li><li>For industrial minerals the customer</li></ul>	<p>The products targeted by the Zanaga Iron Ore Project are two pellet feed products:</p> <ul style="list-style-type: none"><li>From Hematite: 66%Fe, 3%SiO<sub>2</sub>, 0.8%Al<sub>2</sub>O<sub>3</sub>, 0.04%P</li><li>From Magnetite: 68.5%Fe, 3.3%SiO<sub>2</sub> to 3.7%SiO<sub>2</sub>, 0.3%Al<sub>2</sub>O<sub>3</sub> to 0.4%Al<sub>2</sub>O<sub>3</sub>, &lt;0.01%P</li></ul> <p>No fundamental analysis of supply, demand and price and volume forecasts specific to the</p>												

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	specification, testing and acceptance requirements prior to a supply contract.	<p>Zanaga Iron Ore Project has been undertaken. The basis for the long term pricing assumption which supports the Ore Reserves has been sourced by The Company from consensus IODEX 62% Fe forecast (Standard Chartered, June 2016).</p> <p>Seaborne iron ore supply is dominated by Australia and Brazil, with South Africa, Canada the CIS and others making a smaller contribution to the total.</p> <p>The primary market competition will come from existing and expanding pellet feed supply in Brazil and new supply from Australia.</p> <p>A US\$60/t<sub>dry</sub> at 62%Fe CFR long term price (real terms) has been used in the financial evaluation to support the Ore Reserve. This long term price is based on the analysis of consensus IODEX price forecasts as at June 2016. Shipping rates of US\$10.50/t<sub>wet</sub> have been estimated from RoC to China to determine FOB pricing. Allowances for Fe unit premiums, quality adjustments and moisture adjustments result in an average FOB selling price assumption of:</p> <ul style="list-style-type: none"> <li>• US\$54.20/t<sub>dry</sub> for concentrate from hematite; and</li> <li>• US\$56.80/t<sub>dry</sub> for concentrate from magnetite.</li> </ul>
<b>Economic</b>	<ul style="list-style-type: none"> <li>• <i>The inputs to the economic analysis to produce the net present value (NPV) in the study, the source and confidence of these economic inputs including estimated inflation, discount rate, etc.</i></li> <li>• <i>NPV ranges and sensitivity to variations in the significant assumptions and inputs.</i></li> </ul>	<p>The financial modeling undertaken inclusive of only Measured and Indicated Classified Mineral Resources produces a positive NPV project at an appropriate discount rate.</p> <p>Based on the updated freight assumptions, the project requires a CFR IODEX 62% Fe Concentrate price of US\$51.00/t<sub>dry</sub> in order to provide a real terms internal rate of return of 10%.</p>
<b>Social</b>	<ul style="list-style-type: none"> <li>• <i>The status of agreements with key stakeholders and matters leading to social licence to operate.</i></li> </ul>	<p>The land acquisition, resettlement and the associated compensation process will be led by the government. Land acquisition and resettlement for the areas occupied by the mine site and transport corridor have not been initiated. Delays to the land acquisition, compensation and resettlement processes could delay initiation of the construction phase. The project development schedule envisages resettlement of villages in the mine area in the first year of construction.</p> <p>Resettlement is a key issue for the project. At the mine site, 3,100 people are expected to be resettled (700 people for stage 1 and the remainder for stage 2). Resettlement planning has not commenced. As part of the process of preparing a resettlement action plan the resettlement agreement/ entitlement framework needs to be negotiated. It is not uncommon for it to take more than two years after the start of resettlement planning (i.e. after the announcement of the census cut-off date).</p>
<b>Other</b>	<p><i>To the extent relevant, the impact of the following on the project and/or on the estimation and classification of the Ore Reserves:</i></p> <ul style="list-style-type: none"> <li>• <i>Any identified material naturally occurring risks.</i></li> <li>• <i>The status of material legal agreements and marketing arrangements.</i></li> <li>• <i>The status of governmental agreements and approvals critical to the viability of the project, such as mineral tenement status, and government and statutory</i></li> </ul>	<p>Applications for an environmental permit have been submitted to the Government. There is no information on how far through the permitting process the environmental permit application is. Delays in the issue of the environmental permit may impact the Project schedule.</p> <p>On 14th August 2014, a mining licence was awarded over a single permit area – Zanaga – covering 499.3 km<sup>2</sup>. This mining license replaces two exploration licences that had previously covered the same area (Zanaga-Bambama and Zanaga-Mandzoumou). The</p>

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	<p><i>approvals. There must be reasonable grounds to expect that all necessary Government approvals will be received within the timeframes anticipated in the Pre-Feasibility or Feasibility study. Highlight and discuss the materiality of any unresolved matter that is dependent on a third party on which extraction of the reserve is contingent.</i></p>	<p>mining licence has been granted for a duration of 25 years, with options to extend as per the Mining Code of Republic of Congo. The Zanaga deposit lies wholly within the licence boundary. SRK is not aware of any issues that would prevent renewing the mining licence to cover the full life of mine plan.</p> <p>The Project plans a two stage development to produce 30Mtpa of high grade iron ore concentrate plus the potential for up to 2Mtpa of DSO. The application for environmental permit pertains to the Stage 1 development only.</p> <p>There is an existing Mining Convention between MPD and the Government that applies in respect of exploration works within the exploration licences. A Mining Convention between MPD and Government that will regulate the operating conditions for all components of the project has been negotiated and was signed on the 14<sup>th</sup> August 2014. This Mining Convention was approved by the Supreme Court in March 2015, and by the Council of Ministers in October 2015, ratified by the Parliament of the Republic of the Congo ("RoC") in April 2016 and is expected to be published in the Official Gazette' of the RoC on in July 2016.</p>
<b>Classification</b>	<ul style="list-style-type: none"> <li><i>The basis for the classification of the Ore Reserves into varying confidence categories.</i></li> <li><i>Whether the result appropriately reflects the Competent Person's view of the deposit.</i></li> <li><i>The proportion of Probable Ore Reserves that have been derived from Measured Mineral Resources (if any).</i></li> </ul>	<p>There are Measured, Indicated, and Inferred Classified Mineral Resources within the block model.</p> <p><b>Hematite</b></p> <p>Only Measured and Indicated Classified Mineral Resources with the design pits have been converted to Proved and Probable (Measured to Proved, Indicated to Probable).</p> <p><b>Magnetite</b></p> <p>Only Measured and Indicated Classified Mineral Resources with the pit shells have been converted to Probable (Measured and Indicated to Probable).</p> <p>All of the Measured Mineral Resources attributable to the Stage 2 magnetite expansion have been downgraded to Probable Ore Reserves due to the reduced study level as compared with Stage 1.</p>
<b>Audits or reviews</b>	<ul style="list-style-type: none"> <li><i>The results of any audits or reviews of Ore Reserve estimates.</i></li> </ul>	<p>Ore Reserves of 2,500Mt at 34%Fe have been historically stated by CSA Global (December 2012) following the completion of a pre-feasibility study evaluating a 30 tpa production rate.</p>
<b>Discussion of relative accuracy/confidence</b>	<ul style="list-style-type: none"> <li><i>Where appropriate a statement of the relative accuracy and confidence level in the Ore Reserve estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the reserve within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors which could affect the relative accuracy and confidence of the estimate.</i></li> <li><i>The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation.</i></li> <li><i>Documentation should include</i></li> </ul>	<p>The Mineral Resources which the Ore Reserves are based upon constitute 2,400Mt of Measured Resources at 34.0%Fe, 2,290Mt of Indicated Resources at 30.8%Fe and 2,100Mt of Inferred Resources at 31.0%Fe as authored by the Competent Person, Malcolm Titley, an employee of CSA Global ("CSA").</p> <p>Overall, SRK does not consider there to be material bias in the underlying data or grade estimate and modelling methodology employed by CSA that would affect the classification of the Mineral Resources. However the assignment of average densities to lithological units gives lower confidence to local tonnage estimates. In addition the bulk density sampling and determination methodology may result in a bias and is likely to overstate the tonnages.</p>

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	<p><i>assumptions made and the procedures used.</i></p> <ul style="list-style-type: none"> <li>• <i>Accuracy and confidence discussions should extend to specific discussions of any applied Modifying Factors that may have a material impact on Ore Reserve viability, or for which there are remaining areas of uncertainty at the current study stage.</i></li> <li>• <i>It is recognised that this may not be possible or appropriate in all circumstances. These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.</i></li> </ul>	

## **Advisors**

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