



**CHINA VANADIUM
TITANO-MAGNETITE MINING
COMPANY LIMITED**

中國鈮鈦磁鐵礦業有限公司

(Incorporated in the Cayman Islands with limited liability)

(於開曼群島註冊成立之有限公司)

(Stock Code 股份代號: 00893)

**CONSOLIDATE
THE FOUNDATION**

with inclusiveness and adaptability

謀定而動 順勢而為

2018

**ENVIRONMENTAL,
SOCIAL AND
GOVERNANCE
環境、社會及管治報告**

We aim to be a

TOP-NOTCH ENTERPRISE

打造一流企業

CORE VALUE

- We deliver with integrity
- We explore opportunities
- We uphold the essence of commitment and responsibility
- 誠信、開拓、責任

VISION

- To explore exceptional potential in mining
- 中國鐵鈦，
太（鈦）不平凡（鈦）

MISSION

- We reward shareholders
- We care for the community
- 回報股東，回報社會

CONTENTS

目錄

2	About This Report 關於本報告
4	Chairman's Statement 主席報告書
6	Group Profile 集團簡介
8	Corporate Governance 企業管治
9	ESG Management ESG管理
15	Operational Practice 營運慣例
17	Environment 環境
24	Employer Responsibility 僱主責任
30	Community 社區
31	Glossary 詞彙
36	Index 索引
41	Feedback Form 讀者反饋表



ABOUT THIS REPORT

China Vanadium Titano-Magnetite Mining Company Limited is publishing its fourth Environmental, Social and Governance (“ESG”) report. This report presents the Company’s concepts, action plans and performance in sustainable development to stakeholders.

Scope

This report discloses the information on the Group in fulfilling its economic, environmental and social responsibilities. This report covers the period from 1 January 2018 to 31 December 2018. Some content may look back upon the performance of the Group in past years with a view to presenting the report in a more informative and comparable manner.

Reporting Period

This is an annual report.

Reporting Guidelines

This report is prepared in accordance with the “comply or explain” approach of the *Environmental, Social and Governance Reporting Guide* (the “ESG Reporting Guide”) in Appendix 27 to the *Rules Governing the Listing of Securities on The Stock Exchange of Hong Kong Limited*.

The preparation of this report follows the Materiality, Quantitative, Balance and Consistency reporting principles. In the report, the Company sets out the process of stakeholder identification and engagement, conducts materiality assessment and ascertains key topics. In addition, the Company quantifies key indicators, compares the performance of the year under review with the historical data and demonstrates its ESG achievements in an all-around and impartial way.

關於本報告

中國鈦鐵磁鐵礦業有限公司謹此發表其第四份環境、社會及管治（「ESG」）報告。本報告旨在向權益人闡述本公司在可持續發展方面的理念、行動計劃及表現。

範圍

本報告披露本集團在2018年1月1日至2018年12月31日期間履行經濟、環境及社會責任方面的資料。為提供更多相關資訊及更易於比較，報告內呈列的部分內容可能引用本集團過往年度的表現數據。

報告週期

此報告為年度報告。

報告指引

本報告按照香港聯合交易所有限公司證券上市規則附錄二十七《環境、社會及管治報告指引》（「ESG報告指引」）的「不遵守就解釋」方針編製。

編製本報告時依循重要性、量化、平衡及一致性的匯報原則。於本報告內，本公司載列識別權益人及其參與的過程、進行重要性評估以及探討重大議題。此外，本公司量化關鍵指標，比較回顧年度的表現與歷史數據，並以全面且中立的方式展示其ESG成果。



Data Collection

Financial data in this report are extracted from the Company's Annual Report 2018. Other data are extracted from the Group's internal management system and statistics, and partly consist of data from previous years. Unless otherwise stated, RMB is used in this report as its functional currency.

Report Availability

This report is issued in electronic version. Please visit www.chinavtmmining.com or www.hkexnews.hk to download the report.

Contacts

We value stakeholders' views and suggestions. Please let us know your feedback on our ESG management and reporting via:

Unit A, 4th Floor, E168
Nos.166-168 Des Voeux Road Central
Hong Kong
Email: ir@chinavtmmining.com

資料收集

本報告內的財務數據乃摘錄自本公司的2018年年報。其他數據乃摘錄自本集團的內部管理系統及統計數字，當中部分包括往年數據。除非另有指明，否則人民幣將用作本報告的功能貨幣。

報告獲取

本報告以電子版本發出，可於 www.chinavtmmining.com 或 www.hkexnews.hk 下載。

聯絡資料

我們重視權益人的意見及建議。如閣下對我們的ESG管理及報告有任何反饋，歡迎透過下列方式告知我們：

香港
德輔道中166-168號
E168 4樓A室
電郵：ir@chinavtmmining.com



CHAIRMAN'S STATEMENT

Dear Stakeholders,

Sustainability is a very broad discipline. Much has been said, read and discussed on various shifting policies in China over recent years on this sustainability topic in many, if not most, of the emerging aspects which bears significant impacts on economic, environmental and social factors in the implementation of growth strategies for both the country and many enterprises. These factors are highly interdependent and the focal point of mining activities in China is irrefutably a case in point to note here while the country is switching its development policies from massive industrialisation models to what have arguably been perceived as more sustainable and long-term policies, so to speak.

There is little doubt that the metals industry is the backbone of the economic fundamental and against this backdrop, its supply-side structure has been reformed and the emission profile has changed in this dynamic, volatile and yet, complicated mining industry under the government-directed frameworks over the past several years. By all means, these policies are here to stay for promoting China's sustainable growth ambitions. In the main, our supportive mindset on safety measures, sustainability strategies and people will remain as the key emphasis in executing our growth initiatives along with these macro ambitions. Specifically, being one of the largest iron ore producers and mine operators in Sichuan Province, we think we could possibly help to support its economic and environmental progress while delivering growth for the communities within our reach.

On the other hand and in certain operational aspects, whilst we recognise that certain environmental-related technologies will definitely help to support our sustainability efforts well, it is important to strike a balance between productivity and affordability. Novel technologies are amazingly impressive but costly. The costly investments may technically meet certain stakeholders' expectation but could financially fail others (particularly, our industry remains largely volatile). Ideas, plans, strategies, practice and structures must thus be technically feasible and commercially viable for improving operational efficiency and financial performance while we are taking on this shared value approach. Having said that, we fully support that mining should be done in environmentally and socially responsible ways, which must reasonably be weighed in our investment decisions as well. Our foreign mining services specialists share the same view.

主席報告書

致各權益人：

可持續發展是層面極其寬廣的課題。近年中國多項政策在各個新興層面幾近全部趨向可持續發展，成為人們的話題、文章的內容、談論的題目。政策轉向對於國家及不少企業執行增長策略時在經濟、環境及社會方面有重大影響。這些方面環環緊扣，而國家發展政策正值由大規模工業化模式轉向被視為更符合可持續發展的長期政策，中國開採活動無可避免成為焦點。

無庸置疑，金屬行業是經濟基本面的骨幹，因此，自數年前起，起伏跌宕、錯綜複雜的開採行業在政府指導的框架下進行供給側結構改革，排放標準亦有所改變。為達成促進中國可持續增長的宏願，此等政策勢必持續。簡言之，我們對安全措施的支持、可持續發展策略及人才將仍然是我們配合此等宏觀大略推行增長措舉的重中之重。具體而言，我們身為四川省最大型鐵礦石生產商及礦場營運商之一，相信我們可以在協助推動該區經濟環保進程之餘，在力所能及的範圍內支持社區成長。

另一方面，在若干營運層面上，儘管我們認為若干環境相關技術定必能夠大大幫助我們追求可持續發展，然而必須在生產力與應付能力兩者之間取得平衡。新興技術固然效果超群，卻也所費不菲。成本高昂的投資在技術層面上或可符合若干權益人的期望，惟在財政層面上可能辜負他人（尤其是在我們所處行業仍在大幅波動之時）。因此，在我們追求共同價值之時，所有理念、計劃、策略、實務及結構均須在技術和商業層面上同時可行，從而改善營運效益及財務表現。儘管如此，我們確信在進行開採活動時應盡環境和社會責任，而我們在作出投資決定時必須合理加以衡量。對此，我們的外國開採服務專家亦認同。

As I had previously highlighted, the stringent emission control under the China's Blue Sky Plan caused high market sensitivity on impurity of the iron ore content, pushed demand for the higher-grade iron ore up and fragmented the markets quite drastically. During the year, we scaled down and suspended the operations of the more polluting low-grade mines while gearing up the production for high-grade iron ore, which seems to be operationally sustainable despite the increasingly higher environmental compliance costs. We subsequently proposed to dispose those loss-making inactive mines after a careful strategic review. In this aspect, business sustainability for our stakeholders is one of the key factors for our decision to sell and reinvest. It is strategically important for part of the funds be then reallocated in building up a sustainable business ecosystem for our stakeholders.

Meanwhile, rehabilitation plans and sites restoration have to be continually evaluated while tailings disposal and recycling have to be closely monitored together with various preventive measures implemented to protect the surrounding ecological and geological environment – it is a continuing effort.

I continue to believe that we must bring transformational change to our stakeholders, going forward. As I wrote earlier, we must think ahead and plan ahead towards integrating societal value with our future corporate strategies, which should include more efficient use of resources over a longer-term investment horizon. Our management team is hardworking, supportive and confident. That, nothing much has changed so far in our strategic thinking and core beliefs, which shall propel our movement forward.

From managing our existing mines to implementing our future strategies, we will continue to promote a fair, safe, healthy and friendly working environment for our employees. We appreciate team effort; we encourage idea sharing and we must avoid spreading emotional contagion amongst our key management members and staff. We reaffirm our commitment to supporting our sustainable efforts.

Teh Wing Kwan
Chairman

Hong Kong, 28 June 2019

誠如本人先前指出，中國藍天計劃下的嚴格排放控制引致市場對鐵礦石含量不純產生高度敏感反應，推高較高品位鐵礦石的需求，令市場急劇分裂。年內，我們將污染較大的低品位礦場業務縮減及停產，同時增加生產高品位鐵礦石，儘管此舉令環境合規成本日益提高，惟應能達致營運可持續發展。其後，我們在仔細進行策略性檢討後，建議出售產生虧損的不活躍礦場。就此，為權益人作出可持續的業務發展是我們決定出售或作再投資的主要因素之一。之後劃撥部分資金為權益人建立可持續發展的業務生態系統，在策略上極為重要。

與此同時，我們需要持續評估復墾計劃及修復礦址，密切監察尾礦處置及回收，並推行不同防範措施以保護周邊生態及地理環境，這些都要持之以恆。

本人相信，展望未來，我們必須為權益人帶來變革轉型。誠如本人先前所言，我們必須未雨綢繆，將社會價值融入未來企業策略之中，當中應包括在進行較長期投資時以更符合效益的方式使用資源。我們的管理團隊勤勉盡責、互相支持、充滿自信。因此，我們的策略思路和核心信念並無重大轉變，將會推動我們前行。

不論是管理現有礦場，還是推行未來策略，我們將繼續提倡為僱員營造公平、安全、健康及友善的工作環境。我們重視團隊合作，鼓勵分享理念，同時避免主要管理人員與員工滋長歪風。我們再次確認，肩負支持可持續發展的使命。

主席
鄭永權

香港，2019年6月28日



GROUP PROFILE

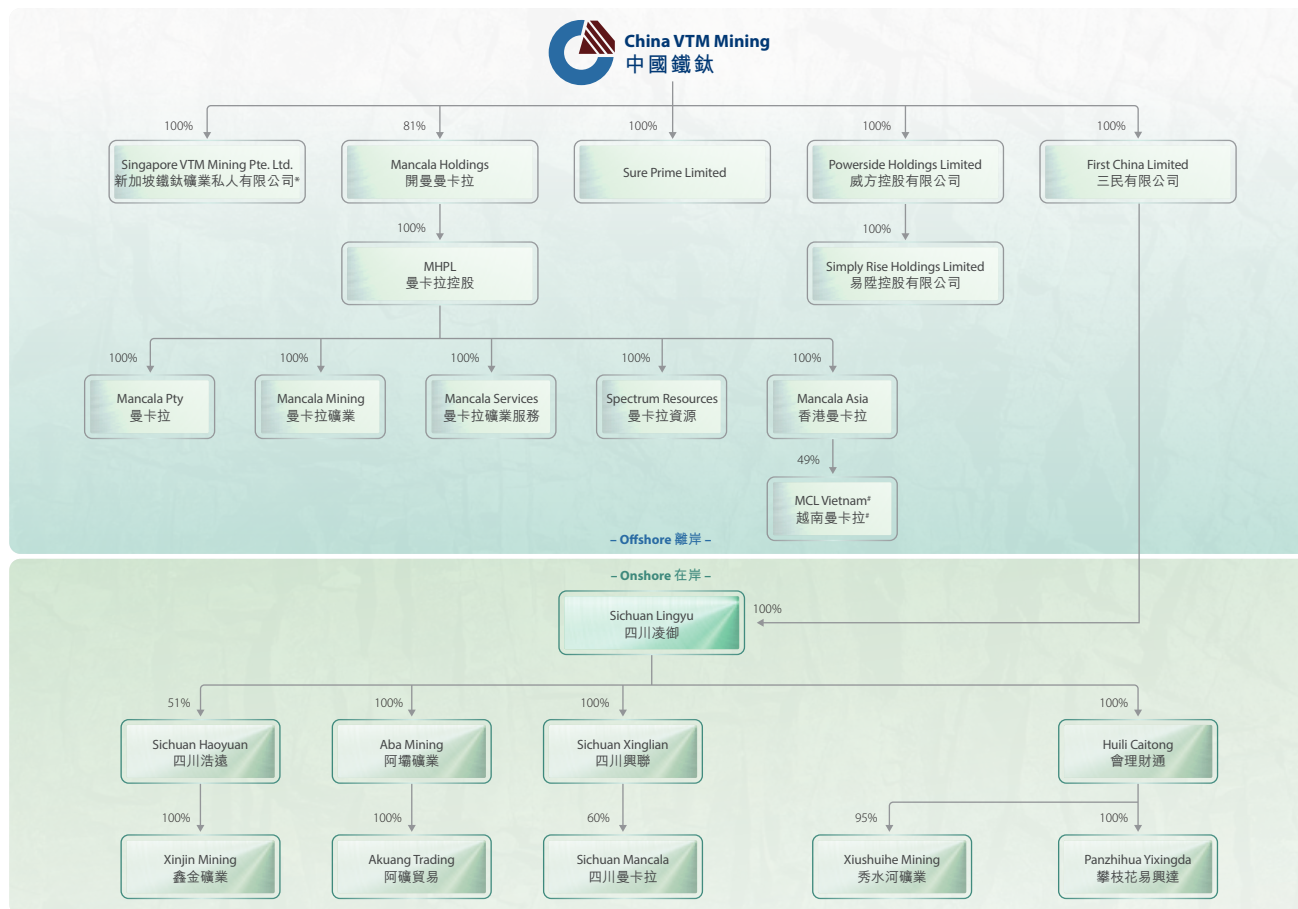
The Company has been listed on the main board of The Stock Exchange of Hong Kong Limited since 8 October 2009. During the year ended 31 December 2018, the Group was principally engaged in mining and ore processing, sale of self-produced products, trading of coals and steels, management of strategic investments and rendering of specialised mining services. As at 31 December 2018, the Group owned five vanadium-bearing titano-magnetite mines (namely the Baicao Mine, Xiushuihe Mine, Yangqueqing Mine, Cizhuqing Mine and Haibaodang Mine), one ordinary iron ore mine (namely the Maoling-Yanglongshan Mine), one gypsum mine (namely the Shigou Gypsum Mine), five processing plants (namely the Baicao Processing Plant, Xiushuihe Processing Plant, Hailong Processing Plant, Heigutian Processing Plant and Maoling Processing Plant) and one Iron Pelletising Plant. All mines are located in Sichuan Province, a region with the most abundant vanadium-bearing titano-magnetite resources in China.

集團簡介

本公司自2009年10月8日起於香港聯合交易所有限公司主板上市。於截至2018年12月31日止年度，本集團的主要業務為採礦及礦石洗選、銷售自產產品、買賣煤炭及鋼鐵、策略性投資管理，以及提供專業開採服務。於2018年12月31日，本集團擁有五個釩鈦磁鐵礦（即白草鐵礦、秀水河鐵礦、陽雀箐鐵礦、茨竹箐鐵礦及海保凶鐵礦）、一個普通鐵礦（即毛嶺—羊龍山鐵礦）、一個石膏礦（即石溝石膏礦）、五座洗選廠（即白草洗選廠、秀水河洗選廠、海龍洗選廠、黑谷田洗選廠及毛嶺洗選廠）及一座球團礦廠。全部鐵礦所在的四川省乃中國境內釩鈦磁鐵礦資源最豐富的地區。

As at 31 December 2018, the total number of shares of the Company in issue was 2,249,015,410 and the percentage holding of the Company's subsidiaries was as follows:

於2018年12月31日，本公司的已發行股份總數為2,249,015,410股，而本公司持有子公司的權益百分比如下：



As Mancala Asia is contractually entitled to appoint a majority of members in the members' council of MCL Vietnam and to control the operations of MCL Vietnam, MCL Vietnam is accounted as a subsidiary of Mancala Asia.

由於香港曼卡拉按照合約有權委任越南曼卡拉董事會大多數成員，並可控制越南曼卡拉的營運，故越南曼卡拉入賬列作香港曼卡拉的子公司。

CORPORATE GOVERNANCE

The Company is committed to upholding corporate governance to ensure that formal and transparent procedures are in place to protect and maximise the interests of its shareholders. Under the supervision of the Board, the management is responsible for designing and implementing the Group's risk management and internal control systems. The Group has set up three lines of defence for risk management. As the first line of defence, the business units (e.g., sales department and production department) are responsible for identifying and assessing business risks and developing risk mitigation measures; as the second line of defence, the functional departments (e.g., compliance department and finance department) are responsible for assisting the business units to improve the risk management and monitoring the effectiveness of risk management; and the internal audit function, as the third line of defence, assists the Board and the audit committee of the Company in reviewing the effectiveness of the Group's risk management and internal control systems.

As and when required during the year, the management convened meetings which were chaired by the senior management and attended by, among others, managers from subsidiaries and department heads from the headquarters. The Group's decisions on operations, implementation of investment projects, financial matters and the updates on risk management and internal control were considered and determined in these meetings. For more information about the Group's corporate governance, please refer to the Corporate Governance Report in the Company's Annual Report 2018.

企業管治

本公司致力維持企業管治，確保以正式、透明度高的程序保障及提升股東的權益。在董事會的監督下，管理層負責設計及實行本集團的風險管理及內部監控系統。本集團為風險管理制定三條防線。第一條防線為業務單位（如銷售部門及生產部門），負責識別及評估業務風險，並制定減低風險措施；第二條防線為職能部門（如合規部門及財務部門），負責協助業務單位改善風險管理，監察風險管理成效；而第三條防線為內部核數功能，協助本公司董事會及審核委員會檢討本集團風險管理及內部監控系統的成效。

年內如有需要，管理層會召開由高級管理層出任主席的大會，與會者包括子公司的經理及總部的部門主管。本集團的營運決策、投資項目的實行、財務事宜和風險管理及內部監控的最新情況均於該等會議上省覽及決定。更多關於本集團企業管治的資訊，請參閱本公司2018年年報中的企業管治報告。



ESG MANAGEMENT

Committed to pursuing a high-level of corporate governance, the Company has established well-defined and highly transparent corporate governance structures and systems to guarantee long-term development of the Company and safeguard the interests of the shareholders of the Company. After extensive study, the Company has published the *Guidelines on Environmental, Social and Governance Working Group* and formally established an ESG Working Group and its associated Execution Team.

The ESG Working Group is led by the Company's financial controller, supported by the chief executive officer and the head of compliance department of the Company. The ESG Working Group regularly reports ESG related policies and issues to the Board, and assists to effectively evaluate risks and opportunities arising from the Group's operations; develops strategies for ESG reporting and ESG management, and maps out a medium to long-term ESG management plan to enhance the Group's capability in internal control and risk mitigation; establishes and maintains a healthy relationship with stakeholders to ensure a proper materiality assessment; instructs the Execution Team to establish working mechanisms and approval processes; and evaluates the achievements of the Execution Team.

Under the leadership of the ESG Working Group, the Company has also established an Execution Team led by the head of compliance department of the Company and has assigned a full-time employee to manage the daily ESG issues and help set up an ESG contact network. Apart from the designated ESG representative from the compliance department, other members making up the Execution Team are the senior management of the subsidiaries of the Company and department heads from the finance, general management, production and operation departments, etc. The Execution Team assists the implementation of the decisions made and instructions given by the ESG Working Group and organises stakeholder communication and ESG reporting, making sure ESG issues are well incorporated into the Group's daily operations.

The dual settings in organisational structures facilitate the Company to better understand stakeholders' concerns and obtain timely feedback from them. The engagement of the Board and senior management of the subsidiaries of the Company further reinforces the importance of ESG issues and ensures that the views of the ESG management are given due weight in the Group's daily operations.

ESG管理

本公司致力實行高水平的企業管治，因此已建立權限清晰且透明度高的企業管治架構及制度，確保本公司可長遠發展及保障本公司股東利益。經廣泛研究後，本公司已制訂《環境、社會及管治小組工作制度》，並正式設立ESG工作小組及其附屬執行團隊。

在本公司財務總監帶領以及首席執行官和合規部主管支持下，ESG工作小組定期向董事會匯報ESG相關政策及議題，並協助有效地評估本集團營運所引起的風險及帶來的機遇；制訂ESG報告與ESG管理策略以及擬訂中長期ESG管理計劃，以提升本集團內部監控及減低風險的能力；與權益人保持良好關係，確保重要性評估恰當；委託執行團隊設立工作機制及審批程序；以及評價執行團隊的表現。

本公司亦已在ESG工作小組的領導下成立以本公司合規部門主管為首的執行團隊，並指派一名全職僱員負責管理日常ESG議題及協助建立ESG聯繫網絡。除該名由合規部門指定的ESG代表外，組成執行團隊的其他成員為本公司各子公司的高級管理層以及財務、綜合管理、生產及營運等部門的主管。執行團隊協助執行ESG工作小組作出的決定及指示，以及安排權益人溝通及ESG報告事宜，確保本集團的日常運作充分考慮ESG各項事宜。

雙向組織架構使本公司能更瞭解權益人關注的事宜並適時取得彼等的反饋。董事會及本公司各子公司高級管理層的參與進一步確認ESG議題的重要性，並確保本集團的日常運作妥善顧及ESG管理意見。

Stakeholder Engagement

Stakeholder engagement is a core part of the Company's sustainable development. The Company strives to establish a regular communication mechanism with stakeholders and has set up online and offline communication channels, which inform the Company's strategic plan and performance in sustainable development and ensure timely feedback from our stakeholders, so that the Group's business practices can meet their expectations.

We identify stakeholders as individuals or organisations that interact with the Group, which are influenced by, have an influence on, or have a vested interest in, the Group. Stakeholders of the Company include not only internal stakeholders such as employees, but also external stakeholders such as our shareholders, clients, suppliers, communities, and the government. We communicate with our stakeholders on various issues through different channels.

權益人參與

權益人的參與乃本公司可持續發展的核心部分。本公司致力與權益人建立定期溝通機制，並設有線上線下溝通渠道，從而告知本公司在可持續發展方面的策略計劃及表現，確保適時向我們的權益人取得反饋，使本集團的業務常規符合彼等的期望。

我們將權益人識別為與本集團互動、受本集團影響、對本集團有影響力或於本集團有既得利益的人士或組織。本公司的權益人不僅包括僱員等內部權益人，亦包括外部權益人，例如我們的股東、客戶、供應商、社區及政府。我們透過不同渠道與權益人討論各種議題。

Communication with stakeholders 與權益人的溝通			
Types of stakeholders 權益人類別	Needs 需求	Responses 回應	Communication channels 溝通渠道
Shareholders 股東	<ul style="list-style-type: none"> Continuous and stable investment returns 持續及穩定的投資回報 Timely disclosure of information 適時披露資訊 Enterprise operates in compliance with relevant laws and regulations 企業以符合相關法律及法規的方式營運 	<ul style="list-style-type: none"> Improve business portfolio diversity and operating cash flow 提高業務多元性及加強營運現金流 Establish a sound system for disclosure of regular and ad hoc information 設立完善系統披露定期及特別資訊 Improve internal compliance system 改善內部合規系統 	<ul style="list-style-type: none"> Annual and interim reports 年報及中期報告 Corporate announcements 公司公告 Press releases 新聞稿



Communication with stakeholders 與權益人的溝通			
Types of stakeholders 權益人類別	Needs 需求	Responses 回應	Communication channels 溝通渠道
Clients 客戶	<ul style="list-style-type: none"> Sustainable, reliable and safe supply of products and services 可靠及安全地持續供應產品及服務 Timely response to clients' demands 適時回應客戶需求 Improvement in product and service quality 提升產品及服務質素 	<ul style="list-style-type: none"> Establish a comprehensive safety supervision system and response system 設立全面的安全監督系統及回應制度 Establish a responsive identification system for clients' needs 設立反應迅速的客戶需求識別系統 	<ul style="list-style-type: none"> Continuous communication through visits, emails and other official channels 以訪談、電郵及其他正式渠道持續溝通 Entering into long-term cooperation agreements 訂立長期合作協議
Employees 僱員	<ul style="list-style-type: none"> Adequate health and safety protection 足夠的健康及安全保障 Decent working environment 理想的工作環境 Plenty of opportunities for career development 充足的事業發展機會 	<ul style="list-style-type: none"> Establish work safety and health policies in line with relevant laws and regulations 制定符合相關法律及法規的工作健康及安全政策 Improve internal systems for managing staff recruitment and promotion 改善內部員工招聘及晉升管理制度 Enrich employees' daily lives 使僱員日常生活更充實 Provide diversified employee benefits 提供多元化的僱員福利 	<ul style="list-style-type: none"> Internal memos 內部備忘 Team building exercises 團隊建立活動 Staff counselling 員工輔導



Communication with stakeholders
與權益人的溝通

Types of stakeholders 權益人類別	Needs 需求	Responses 回應	Communication channels 溝通渠道
Suppliers 供應商	<ul style="list-style-type: none"> Fair, just and open procurement process 公平、公正、公開的採購過程 Punctual performance of contractual obligations 準時履行合約責任 	<ul style="list-style-type: none"> Ensure transparency in procurement process with internal and external supervision 確保採購過程具透明度，接受內部及外部監督 Reasonable management and control of cash flow to ensure timely payment 合理管理及監控現金流，確保適時付款 	<ul style="list-style-type: none"> Publish announcements and notices for procurement and tender on government websites 於政府網站發佈採購及招標公告及通告 Corporate corruption reporting hotline 公司貪污舉報熱線
Government 政府	<ul style="list-style-type: none"> Promote local and peripheral industry development 推動地方及週邊地區的行業發展 Enterprise operates in compliance with relevant laws and regulations 企業以符合相關法律及法規的方式營運 	<ul style="list-style-type: none"> Provide job opportunities and tax contribution at the location of operations 於營運所在地提供工作機會及繳納稅項 Receive supervision from the government and improve internal compliance monitoring system 接受政府監督，加強內部遵例監察制度 Ensure compliance with relevant laws and regulations regarding environment, safety and integrity 確保符合有關環境、安全及誠信的相關法律及法規 	<ul style="list-style-type: none"> Participate in government meetings and pay regular visits to the government authorities 參與政府會議，定期造訪政府機關



Communication with stakeholders 與權益人的溝通			
Types of stakeholders 權益人類別	Needs 需求	Responses 回應	Communication channels 溝通渠道
Community 社區	<ul style="list-style-type: none"> Contribute to community development 為社區發展作出貢獻 	<ul style="list-style-type: none"> Improve local infrastructure construction 改善當地基礎建設 	<ul style="list-style-type: none"> Survey of community representatives 社區代表調查
	<ul style="list-style-type: none"> Engage in community activities and maintain good communication 參與社區活動，保持良好溝通 	<ul style="list-style-type: none"> Maintain good communication with local residents 與當地居民保持良好溝通 	<ul style="list-style-type: none"> Regular visits 定期拜訪
Banks 銀行	<ul style="list-style-type: none"> Good creditworthiness and ability to pay debts 信譽良好，有能力清償債務 Stable business development 穩定的業務發展 	<ul style="list-style-type: none"> Pay debts on time to maintain good creditworthiness 準時清償債務，以維持良好信譽 	<ul style="list-style-type: none"> Regular and direct communication 定期直接溝通

Materiality Assessment

In 2018, the Company continued to use questionnaires to gain a full understanding of stakeholders' view on relevant ESG work and to receive stakeholders' advice. Sixteen issues were identified and determined with reference to the scope of disclosure set out in the ESG Reporting Guide and by taking into account the features of the Group's business. These issues covered areas including environment, employment practice, occupational health and safety, labour standards, supplier management, product responsibility, anti-corruption, and community investments. Internal and external stakeholders were invited to rate the materiality of the sixteen issues through questionnaires and rank the sixteen issues by their materiality ratings. Through the materiality ratings, combined with the consideration of the disclosure of the Group's business highlights and industry information, the key issues for disclosure in this report were derived, and a materiality matrix was formed (see Figure 1 for details).

重要性評估

本公司於2018年繼續以問卷方式全面瞭解權益人對相關ESG工作的意見及收集權益人的建議。經參考ESG報告指引所載的披露範圍和結合本集團業務的實際情況後，本公司已識別出及釐定16個議題，涵蓋環境、僱傭慣例、職業健康與安全、勞工準則、供應商管理、產品責任、反貪污及社區投資等範疇。本公司邀請內外部權益人以問卷為該16個議題的重要性評分，其後按重要性評分為該等議題排序。考慮到本集團業務重點及行業資料的披露事項，本公司藉助重要性評分得出於本報告內披露的主要議題，並編製出重要性矩陣（詳情見圖1）。



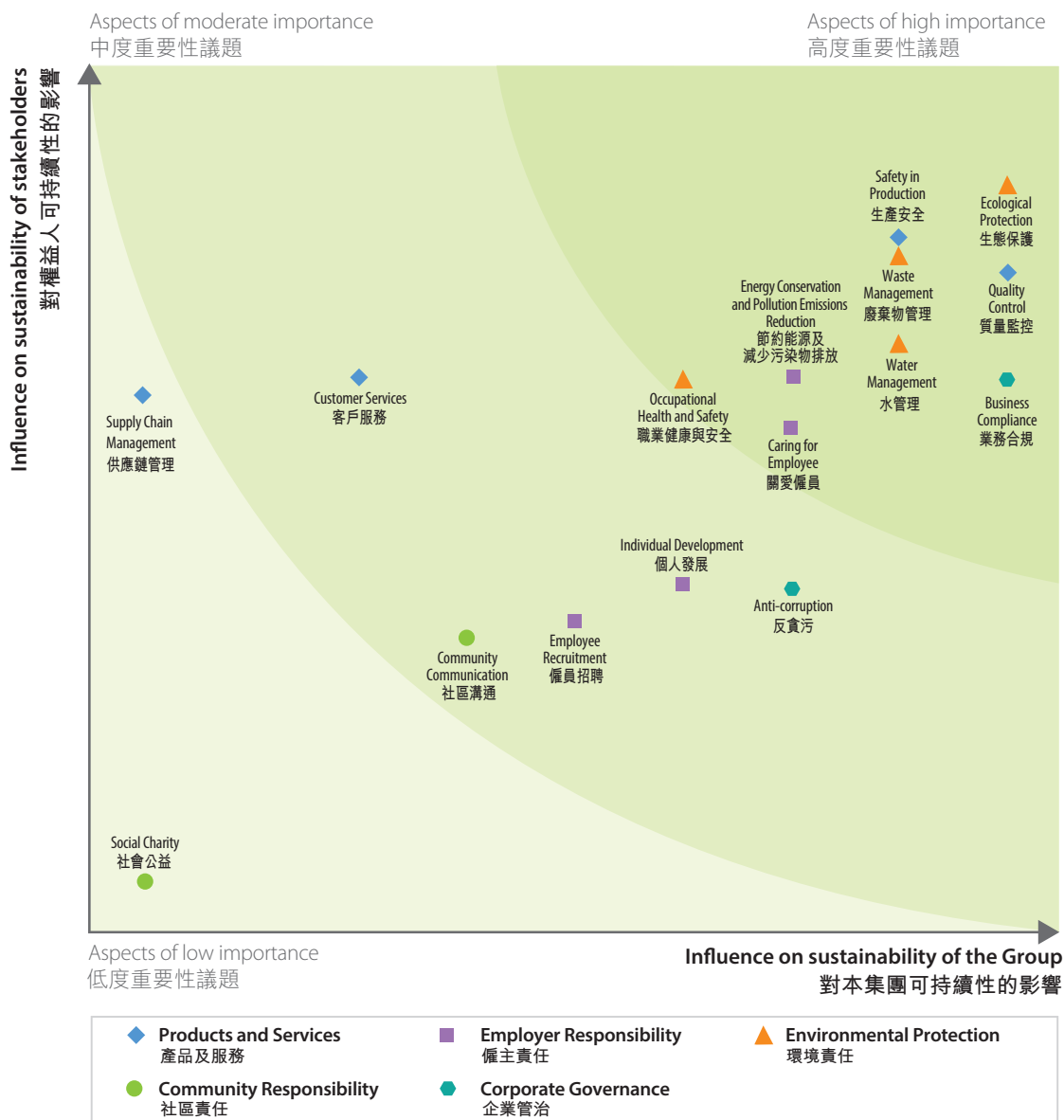


Figure 1: Materiality Matrix for China VTM Mining in 2018

圖1：2018年中國鐵鈦重要性矩陣

Results of the stakeholder survey provided useful references for future adjustments to our sustainable actions. Subject to the disclosure requirements of the ESG Reporting Guide, this report sets out in greater details the issues which our stakeholders are more concerned. In addition, the results of the materiality assessment will be used to guide the strategic goals and plan for ESG management in the next year, thereby driving the continuous progress of sustainable development.

權益人調查結果為我們日後調整可持續行動提供有用的參考資料。在ESG報告指引披露規定的規限下，本報告更詳細地載列我們的權益人較為關注的議題。此外，重要性評估的結果將用作下一年度ESG管理策略目標及計劃的指引，從而推動可持續發展的進程。

OPERATIONAL PRACTICE

The Group is committed to providing products and services with the highest quality to its clients. The Group performs a strict selection of qualified suppliers and rigorous execution of quality and service standards assurance procedures. By paying close attention to clients' needs and experience, as well as obtaining feedback from clients and conducting timely modifications, the Group keeps enhancing its products and service qualities. In addition, the Group adheres to the corporate philosophy of "Integrity Comes First" and stands firm against any non-compliance such as corruption, bribery and fraud to uphold the corporate reputation, create value for its stakeholders, and achieve sustainable corporate development.

Anti-corruption

The Group maintains high standards of integrity and ethics in its operations and follows a zero-tolerance policy against any form of bribery, extortion, fraud and money laundering. The Group is in full compliance with the *Prevention of Bribery Ordinance* from the Hong Kong Independent Commission Against Corruption ("ICAC") and *Ordinance on Disciplinary Sanctions in the Communist Party of China*. Based on the relevant laws, regulations, and the *Toolkit on Directors' Ethics* from the ICAC, the Group has developed a series of policies and appropriate management measures such as the *Administrative Measures of Aba Mining on Staff Rewards and Punishments* to enhance its ability to prevent corruption at the source.

The Group has implemented several measures to improve self-discipline. The Group has dedicated anti-corruption personnel and relevant grievance mechanisms in place, and conveyed anti-corruption principles and requirements to its employees in the employee handbook. The Group has also organised anti-corruption training and various educational and promotional activities to increase the awareness of anti-corruption and the self-discipline of employees. Additionally, the Group has established a business bribery reporting box and reporting hotlines to reinforce ethical administration further and enable all stakeholders to participate in monitoring the Group's business activities. Through these and other efforts, the Group has maintained a healthy, fair, and transparent business environment. During the reporting period, there was no major breach of conduct by the employees within the Group nor legal cases regarding corrupt practices.

Supply Chain Management

The selection and management of suppliers are crucial to the quality, stability and safety of the Group's products. The Group values the cooperation and interactions with its suppliers and is committed to establishing a cooperative relationship that is mutually beneficial.

營運慣例

本集團盡心竭力為客戶提供最優質的產品及服務，因此嚴格挑選合格供應商及切實執行質量和服務保證程序。本集團時刻關注客戶需要及體驗，取得客戶反饋並適時作出改善，務求持續提升產品及服務質量。此外，本集團緊遵「誠信為先」的企業哲學，絕不容許貪污、賄賂及欺詐等任何違規行為，以保持企業聲譽，為權益人創造價值，同時達致企業可持續發展。

反貪污

本集團在營運方面秉持高水平誠信及道德，對任何形式的賄賂、勒索、欺詐及洗黑錢行為採取零容忍政策。本集團全面遵守香港廉政公署（「ICAC」）的《防止賄賂條例》及《中國共產黨紀律處分條例》。本集團已基於相關法律、規則及ICAC的《董事誠信實務指南》制訂出一系列政策及適當管理措施（如《阿壩礦業公司員工獎懲管理辦法》），以提高從源頭防範貪污的能力。

本集團已實行多項措施加強自律，已指派專門處理反貪污事宜的人員及設有相關申訴機制，並於僱員手冊內向僱員傳達反貪污原則及規定。本集團亦籌辦反貪污培訓以及不同教育及推廣活動，加深僱員對反貪污及自律的認知。此外，本集團設立商業賄賂舉報箱及舉報熱線，進一步加強符合道德的管理，使一眾權益人均可參與監察本集團的業務活動。經過多番努力，本集團得以維護一個健康、公平及具透明度的業務環境。於報告期內，本集團並無僱員嚴重違反操守，無貪污引發的訴訟產生。

供應鏈管理

挑選及管理供應商是保證本集團產品質量穩定及安全的關鍵因素。本集團重視與供應商合作及交流，並致力建立互惠互利的合作關係。

Through the ongoing improvement of the procurement management system and supplier management system, the Group has established extensive workflow management on major control procedures including basic principles of supplier screening, procurement methods, supplier selection and evaluation, to manage environmental risks and social risks of the supply chain. The Group prioritises suppliers' selection criteria. A comprehensive selection process, which covers the commercial and professional credentials, quality system, productivity, product quality, pricing, and service capability, will be conducted for all suppliers and field inspections of the suppliers would be made if necessary. Only those suppliers who have fulfilled all selection criteria will be selected. During the contract period, the Group performs annual assessments based on a rating system in respect of the supply quality, pricing, delivery date and service level of the suppliers, and actively updates the list of its qualified suppliers, with a view to ensuring the quality of its products from the source.

Product Responsibility

Delivering products and services with high quality is an essential theme of the sustainable development of an enterprise. The Group attaches importance to its product quality and reputation as well as strictly implements product quality management in accordance with the relevant national laws and regulations and industry standards. The Group has developed and implemented measures on the management of product quality and enhanced product quality inspections to ensure that superior products are offered to clients.

To strengthen quality control, and stabilise and improve product quality, the Group strictly follows the *Measures on Quality Management* which sets out the quality goals as below:

- guaranteed grading of TFe in vanadium-bearing iron concentrates > 54% (Baicao Processing Plant – 55%, Xiushuihe Processing Plant – 54%);
- chemical contents meet the standards as agreed;
- not less than 75% of vanadium titanium concentrate particles of -200 mesh;
- guaranteed grading of titanium dioxide in titanium concentrates ≥ 46%; and
- customer satisfaction ≥ 90%.

透過不斷改善採購管理制度及供應商管理制度，本集團已就主要監控程序設立廣泛的工作流程管理，包括篩選供應商的基本原則、採購方法、供應商挑選及評價、管理供應鏈的環境風險及社會風險。本集團將供應商的挑選條件按優次排序。供應商均須接受全面甄選，過程標準涵蓋商業及專業資歷、質量制度、生產力、產品質量、定價及服務能力，而本集團亦會於有需要時進行實地視察。本集團只會挑選符合所有甄選條件的供應商。於合約期內，本集團每年基於有關供應商供應質量、定價、交貨日期及服務水平的評級制度進行評估，並積極更新合格供應商名單，以期由源頭開始確保產品質量。

產品責任

交付優質產品及服務是企業可持續發展的要素。本集團十分注重產品質量及聲譽，並按照相關國家法律法規及行業標準嚴格實行產品質量管理。本集團已制定及實行產品質量管理措施，加強產品質量審查，確保為客戶提供優良產品。

為加強質量監控以及穩定和提升產品質量，本集團嚴格遵守《質量專業管理辦法》，當中載列以下質量目標：

- 含鈮鐵精礦的保證鐵品位>54%（白草洗選廠—55%，秀水河洗選廠—54%）；
- 化學成份符合協定標準；
- -200目粒度的鈮鈦精礦顆粒不低於75%；
- 鈦精礦的二氧化鈦保證品位≥46%；及
- 客戶滿意度≥90%。

To ensure the product quality, the quality management department conducts sampling and testing according to the GB/T 10322.1-2014 *Iron Ore Sampling and Sample Preparation Methods*, and has further reinforced its management over all production units regarding quality control and risk mitigation. Each production unit shall, before 31 March of each year, establish an annual "Enterprise Quality File" for the basic conditions of quality management, quality inspections and laboratory personnel, and file the same to the production and operation department for record. Specifically, the Group formulates its own inspection procedures and sampling inspection requirements according to the product varieties, specifications and technical conditions. Also, the quality inspection personnel of each production unit must conduct an inspection or test according to the inspection items, batches, frequency, sampling methods and time specified in the relevant varieties in the inspection procedures. The inspection and test shall be completed within the specified time, and the results shall be transmitted to the relevant units in time to ensure the normal production and delivery of the products. In the daily inspection, if the sample is sent for inspection and the test result does not qualify, the production unit shall be notified in time.

The Group strictly complies with the *Measures on Dispute Treatment of Product Quality* which stipulates different price adjustments in view of quality deviations in appearance, unqualified chemical composition and physical properties.

Since the Group is in the upper stream of the entire supply chain and provides products to reputable trading companies instead of end users, no issue has arisen as to advertising, labelling or customer privacy during sales, nor health or safety matters during consumption.

ENVIRONMENT

The Group is fully aware of its impacts on the environment in which it operates. To protect the environment proactively, the Group strictly complies with all applicable environmental laws and regulations in China, including but not limited to the *Environmental Protection Law of the People's Republic of China*. Additionally, the Group has formulated and implemented the *Professional Management Measures for Safety and Environmental Protection* and the *Rules for Evaluating Safety and Environmental Protection* to fulfil its commitment to environmental pollution reduction, resource use improvement, GHG emissions reduction, and ecological protection. Due to our product nature, no packaging material is used for the Group's products.

為確保產品質量，質量管理部門根據GB/T 10322.1-2014《鐵礦石取樣和製樣方法》進行取樣檢測，並已進一步加強所有生產單位在質量監控及風險降低方面的管理。各生產單位應於每年3月31日前建立年度「企業質量檔案」，載列質量管理、質量審查及實驗室人員的基本條件，並將該檔案送交生產營運部門存檔以作紀錄。具體而言，本集團按照產品種類、規格及技術條件制訂本身的審查程序及抽樣審查要求。此外，各生產單位的質量審查人員必須按照審查程序所列相關種類的審查項目、批次、週期、抽樣方法及時間進行審查或測試。有關審查及測試應於指定時間內完成，而結果應按時發送至相關單位，確保產品生產及付運正常。在日常審查中，倘送往審查的樣本及測試結果不及格，則應按時知會該生產單位。

本集團嚴格遵守《產品質量異議處理管理辦法》，當中明確基於外觀質量差異、不及格化學成份及本身特性作出的不同價格調整。

由於本集團業務屬整條供應鏈的上游，為信譽良好的貿易公司而非最終用戶提供產品，因此在進行銷售時並無出現廣告、標籤或客戶私隱方面的問題，亦無使用相關的健康及安全問題。

環境

本集團深知其對營運地所在環境的影響。為積極保護環境，本集團嚴格遵守中國所有適用環境法律及法規，包括但不限於《中華人民共和國環境保護法》。此外，本集團已制訂及實施《安全環保專業管理辦法》及《安全環保考核細則》，以踐行對減輕環境污染、善用資源、減少排放溫室氣體及保護生態環境的承諾。基於產品性質，本集團的產品並無使用包裝材料。

Water Resource

Ore processing consumes large quantities of water. To reduce water consumption, the Group improves water usage management and strictly complies with the *Water Law of the People's Republic of China*. In addition, the Group has dedicated itself to reducing water usage and developing the strategy of wastewater recycling with zero emissions.

Given that all mines and plants of the Group are in mountainous areas with abundant rainfall, the Group does not have any issue in sourcing water that is fit for the purpose and most of its water resource comes from mountain river streams, rather than being drawn from the local rivers/lakes or the public water supply systems. To control water usage, the Group strictly complies with the water drawing permit issued by the local governments and conducts regular inspections to prevent water loss and leakage. As Mancala Holdings only provides specialised mining services, the freshwater consumption in its mining area does not fall within the scope of the disclosure in this report. In 2018, the total water usage was 396,214 tons.

水資源

礦石洗選過程中需要大量用水。為減少耗水量，本集團改善用水管理，並嚴格遵守《中華人民共和國水法》。此外，本集團致力節約用水，並制訂回收廢水的零排放策略。

鑑於本集團所有礦場及廠房均位於降雨充足的山區，本集團在求取適用水源上並無任何問題，而水資源大部分來自山中溪流，並無從當地河流／湖泊或公共供水系統取水。為控制用水，本集團嚴格遵守地方政府發出的取水許可，並定期查驗以防止用水流失及水管爆裂。由於開曼曼卡拉僅提供專業開採服務，故其所服務礦區的新鮮水耗量不屬於本報告的披露範圍。2018年的總用水量為396,214噸。

Freshwater Consumption (Tons)

新鮮水耗量 (噸)

		2018 2018年	2017 2017年
Stream	溪流	371,214.11	1,224,976.00
Associated water	伴生水	25,000.00	21,000.00
Total	合計	396,214.11	1,245,976.00
Freshwater consumption per production value of RMB10,000	每人民幣萬元產值的 新鮮水耗量	3.47	9.48



Wastewater generated from the production mainly comprises tailing pulps discharged from the processing plants. Tailing pulps are diverted into the tailing ponds. After sedimentation and clarification, treated water will be transported into the circulation pump station and pumped back to the processing plants for reuse. Thus, water flow within the processing plants forms a closed loop and no external discharge takes place. In 2018, 15,760,890 tons of wastewater generated in the Group's manufacturing process were recycled and reused. The Group saved a total of 879,120 tons of water.

Energy Consumption

To mitigate climate change and put off the ongoing trends of global warming, China has enhanced its efforts to control GHG emissions and has determined to fulfil its commitment to the *Paris Agreement*. To contribute to the national emission reduction goals, the Group prioritises energy conservation and GHG emissions reduction by optimising the energy management system, weeding out obsolete equipment, and using clean energy.

To ensure comprehensive control of energy usage, the Group has developed the *Management of Power, Energy and Measurement*. To further improve the energy management system and apply the best energy-saving practice, the Group encourages all employees to propose rational suggestions through a reward system.

In 2018, the Group conducted power-saving projects. One of the obvious improvements was upgrading ball grinding mills. The Group replaced the old ball grinding mills with a larger and newer version, which reduced half of the number of ball grinding mills. As the start-up of ball grinding mills is the most energy consuming part of the process, by reducing the number of ball grinding mills and controlling the shutdown frequency, the energy consumption per unit of production has been effectively curtailed. However, the savings were outpaced by energy consumption in Xiushuihe Mine as a result of several technology improvement projects which required heavy energy-consuming equipment.

As for daily business operations, the Group consumes gasoline for business vehicles and diesel fuel for mining machineries and equipment. By recording the data of fuel cards, the Group maintains accurate ledgers for gasoline and diesel fuel usage. As Mancala Holdings only provides specialised mining services, the energy consumption in its mining area does not fall within the scope of the disclosure of this report.

生產過程中產生的廢水主要為洗選廠排放的尾礦漿。尾礦漿會分流至尾礦庫。經處理的廢水經過沉澱及淨化後會輸往循環泵站，再回泵至洗選廠再利用。因此，洗選廠內的水流形成閉環，不會向外排放。2018年回收及再利用的本集團製造過程所產生廢水達15,760,890噸。本集團合共節省879,120噸水。

耗能

為緩和氣候變化及減慢目前的全球暖化趨勢，中國已加強控制溫室氣體排放，並矢志履行其對《巴黎協定》的承諾。為配合國家的減排目標，本集團以節約能源及減少排放溫室氣體為首要考慮，優化能源管理系統、淘汰陳舊設備及使用清潔能源。

本集團已制訂《動力、能源、計量管理辦法》，確保全面監控能源用量。為進一步改善能源管理制度及實踐最佳節能做法，本集團透過獎勵制度鼓勵全體僱員提出合理建議。

2018年，本集團進行多個節能項目，其中規模最大的技改工程為升級球磨機，以更大更新的球磨機取代舊有型號，使球磨機數目得以減半。由於球磨機啟動是整個過程中耗能最多的階段，因此減少球磨機數目及控制停機頻率已有效地減少每生產單位的能耗。然而，鑑於秀水河鐵礦的多個技術改善項目須運用高能耗設備，節省的能源不足以抵銷所耗能源。

至於日常業務營運，本集團的公務車輛使用汽油作為燃料，而採礦機械及設備則使用柴油。本集團按加油卡數據準確記錄汽油及柴油的用量。由於開曼曼卡拉僅提供專業開採服務，故所服務礦區的能耗不屬於本報告的披露範圍。

Energy Consumption 能耗

		2018 2018年	2017 2017年
Gasoline (kL) 汽油 (千升)		79.75	73.62
Diesel (kL) 柴油 (千升)		1,206.52	1,072.34
Electricity (MWh) 電力 (兆瓦時)	Electricity purchased from external grids 向外部電網購電	1,466,131 ⁽¹⁾	140,965
	Clean energy purchased 所購入清潔能源	7,196	7,442
Energy consumption per production value of RMB10,000 (kgce) ⁽²⁾ 每人民幣萬元產值的能耗 (千克標準煤) ⁽²⁾		1,591.76	142.07

Notes:

- Significant increase in electricity purchased from external grids as a result of several technology improvement projects in Xiushuihe Mine which required heavy energy-consuming equipment, such as ball grinding mills.
- Energy consumption per production value of RMB10,000 (kgce) does not include purchased clean energy.

附註：

- 向外部電網購電量大幅增加，是由於秀水河鐵礦進行的多個技術改善項目須運用球磨礦機等高能耗設備。
- 每人民幣萬元產值的能耗 (千克標準煤) 不包括所購入清潔能源。

Emission Management

The Group regards reducing and standardising discharge of waste as one of the essential tasks for an enterprise to fulfil its responsibility in environmental protection. Scientific and effective emission management and waste treatment have been applied throughout the production and operation processes. No environmental pollution incident was recorded for the year ended 31 December 2018.

• Solid Waste

Solid waste is the major by-product generated from the production and operation processes. In compliance with the *Law of the People's Republic of China on the Prevention and Control of Environmental Pollution Caused by Solid Waste*, the Group has established waste treatment procedures to minimise the environmental impacts caused by waste disposal. The two major types of solid wastes are waste rocks and tailing slurries. The Group stacks them in the tailing ponds for third parties to collect, recycle and dispose of on a regular and centralised basis.

In 2018, the total amounts of waste rocks and tailing slurries produced by the Group were 4,020,329 tons and 4,110,000 tons, respectively.

排放管理

本集團認為，減少並依法排放廢物乃企業履行保護環境義務的關鍵工作之一。本集團已於整個生產及營運過程採用科學化且有效的排放管理及廢物處置。截至2018年12月31日止年度，本集團未有發生環境污染事故。

• 固廢

固廢乃本集團生產及營運過程的主要副產品。本集團已按照《中華人民共和國固體廢物污染環境防治法》制定廢物處理程序，盡量減輕處理廢物所造成的環境影響。本集團兩大類固廢分別是廢礦石及尾礦泥漿，堆放於尾礦庫，由承包商定期集中收集、回收及處理。

2018年，本集團產生的廢礦石及尾礦泥漿分別合共為4,020,329噸及4,110,000噸。

Disposed Waste (Thousand Tons)

廢物處置量 (千噸)

		2018 2018年	2017 2017年
Waste rocks	廢礦石		
Stack	堆放	4,020.33	3,862.51
Outsourcing	委外	25.82	19.28
Total	合計	4,046.15	3,881.79
Waste rocks disposed per production value of RMB10,000 (tons)	每人民幣萬元產值的廢礦石處置量 (噸)	35.43	29.46
Tailing slurries	尾礦泥漿		
Stack	堆放	4,110.00	4,160.00
Outsourcing	委外	340.73	157.00
Total	合計	4,450.73	4,317.00
Tailing slurries disposed per production value of RMB10,000 (tons)	每人民幣萬元產值的尾礦泥漿處置量 (噸)	38.97	32.77

• Hazardous Waste

The production process of the Group mainly involves physical magnetic separation, which does not involve the use of chemicals, nor the production of biological waste and chemical wastes. The hazardous wastes are mainly lubricating oils. The Group has developed a *Hazardous Waste Management System* in accordance with and in compliance with relevant national standards, including the *Standards for Pollution Control on Hazardous Waste Storage* (GB18597-2001) and the *Management Measures for the Transfer of Hazardous Waste*. Qualified disposal enterprises have been engaged to dispose of hazardous waste in a professional manner. In 2018, the total amount of generated hazardous waste was 10.14 tons with 0.089 kg per production value of RMB10,000, consisting of 2.56 tons waste oil and 7.58 tons waste packaging barrels.

• Air Pollution

The air pollution emitted by the Group includes the dust generated from the ore crushing process and air pollutants from vehicles. In compliance with the *Law of the People's Republic of China on the Prevention and Control of Atmospheric Pollution* and to fulfil its commitment to reducing environmental pollution, the Group has installed dust-extraction units which can effectively extract dust onsite and mix it with tailing pulps to ensure emissions are up to standard. Other air pollutants generated from mobile sources are listed in the table below.

• 危險廢物

本集團生產過程主要涉及物理磁選，並不涉及化學品的使用，亦無產生生物廢棄物及化學廢棄物。有害廢棄物主要為廢棄潤滑油。本集團已按照及遵照《危險廢物貯存污染控制標準》(GB18597-2001)及《危險廢物轉移聯單管理辦法》等相關國家標準就危險廢物制定《危險廢物管理制度》。本集團亦已委託合格處理公司專門處理危險廢物。2018年，有害廢棄物產生總量為10.14噸，包括2.56噸廢油及7.58噸廢包裝桶，每人民幣萬元產值為0.089公斤。

* 空氣污染物

本集團排放的空氣污染物包括粉碎礦石過程中的粉塵及汽車的空氣污染物。為符合《中華人民共和國大氣污染防治法》並履行其減輕環境污染的承擔，本集團已安裝除塵裝置，有效地在現場去除粉塵，並將粉塵混入尾礦漿，確保達標排放。其他來自流動源的空氣污染物列於下表。

Air Pollutants from Road Transportation in 2018 (Kilograms)
2018年道路運輸空氣污染物 (千克)

Air pollutant	空氣污染物	Amount of emissions 排放量
Sulphur oxides	硫氧化物	20.60
Nitrogen oxides	氮氧化物	21.46
Particulate matters	顆粒物	1.58

• **GHG Emissions**

The primary sources of GHG emissions are indirect energy emissions and direct emissions from business vehicles and equipment. There are no direct emissions from boilers or other coal-fired or gas-fired equipment in the production process. As a mineral enterprise, the Group prioritises the reduction of GHG emissions and is in compliance with the *Energy Conservation Law of the People's Republic of China* and the *13th Five-Year Work Plan for Greenhouse Gas Emission Control*. To continually lower GHG emissions, the Group has developed policies to reduce business travels, encourage telephone conferences, promote a paperless office, and purchase clean energy to replace traditional energy resources. In 2018, the Group purchased 7,195,500 kWh of clean energy resources to reduce carbon emissions by 3,783.68 tons. It is worth noting that Aba Mining has realised 100% clean energy utilisation by purchasing electricity generated from a local hydro-power plant.

• **溫室氣體排放**

本集團生產過程中的主要溫室氣體排放源為間接能源排放及公務車輛與設備的直接排放，並無來自鍋爐或其他燃煤或燃氣設備的直接排放。作為一間礦產公司，本集團視減少溫室氣體排放為首要任務，並恪守《中華人民共和國節約能源法》及《「十三五」控制溫室氣體排放工作方案》。本集團已制定政策減少差旅，鼓勵使用電話會議，提倡無紙化辦公，並購買清潔能源以取代傳統能源，以實現持續減少溫室氣體排放的目標。2018年，本集團購買7,195,500千瓦時清潔能源，以減少3,783.68噸碳排放。值得一提的是，阿壩礦業透過向地方水力發電站購電，實現全面使用清潔能源。



GHG Emissions⁽¹⁾ (Tons of Carbon Dioxide Equivalent)

溫室氣體排放量⁽¹⁾ (噸二氧化碳當量)

		2018 2018年	2017 2017年
Direct emissions 直接排放	Gasoline and diesel 汽油及柴油	3,344.47	2,946.12
Indirect emissions 間接排放	Electricity purchased 所購入電力	1,321,570.27 ⁽²⁾	88,941.73
Total 合計		1,324,914.74	91,887.85
GHG emissions per production value of RMB10,000 每人民幣萬元產值的溫室氣體排放量		11.60	0.70

Notes:

1. The GHG emissions were calculated based on the China's regional grid average carbon dioxide emission factor published by the National Development and Reform Commission of the PRC.
2. Significant increase in electricity purchased as a result of several technology improvement projects in Xiushuihe Mine which required heavy energy-consuming equipment, such as ball grinding mills.

附註：

1. 該溫室氣體排放量乃按中國國家發展和改革委員會公佈的中國地區電網平均二氧化碳排放因子計算。
2. 由於秀水河鐵礦進行多個技術改造項目，需要動用高耗能設備（如球磨機），故購電量大幅增加。

• Wastewater

The Group has fully complied with the *Law of the People's Republic of China on the Prevention and Control of Water Pollution*, proactively cooperating with the local environmental supervision department to spot-check tailing effluents on a quarterly basis. The major pollutants in the wastewater are chemical oxygen demand ("COD") and ammonia nitrogen. In 2018, no incident of excessive discharge occurred. The volumes of COD and ammonia nitrogen generated were 0.32 tons and 0.05 tons, respectively. Throughout the year of 2018, no water pollution incident was recorded; the total wastewater discharge was 20,000 tons.

• 廢水

本集團已全面符合《中華人民共和國水污染防治法》，積極地與地方環境監督部門合作，每季度查驗尾礦庫排水。廢水中的主要污染物為化學需氧量及氨氮。2018年，本集團未有發生排放量超標的事故。化學需氧量及氨氮產生量分別為0.32噸及0.05噸。2018全年，本集團未有發生水污染事故，而廢水排放量合共為20,000噸。

Wastewater and Water Pollutants (Tons)

廢水及水污染物 (噸)

		2018 ⁽¹⁾ 2018年 ⁽¹⁾	2017 2017年
Wastewater	廢水	20,000.00	722,800.00
Wastewater discharged per production value of RMB10,000	每人民幣萬元產值的 廢水排放量	0.18	5.49
COD	化學需氧量	0.32	0.29
Ammonia nitrogen	氨氮	0.05	0.05

Note:

1. In 2018, Huili Caitong achieved 100% recycling of wastewater and therefore, no discharged wastewater.

附註:

1. 2018年，會理財通達成百分百廢水回收，故並無排放廢水。

Ecological Protection

The Group strictly adheres to the *Water and Soil Conservation Law of the People's Republic of China* and *Regulations on the Implementation of the Water and Soil Conservation Law of the People's Republic of China*. As some of the Group's operation areas are in the open air, the original vegetation will be destroyed during the mining process. The tailing, waste rocks and other yards will also occupy part of the ecological field. To minimise the impact on the environment, the Group cultivates vegetation and carries out reclamation at all the constituent companies' locations.

In 2018, the Group conducted reclamation to remedy the damaged area of Xiushuihe Mine and Baicao Mine. This effort stabilised the slope, thereby eliminating potential geological hazards. Additionally, vegetation was cultivated to restore the basic function of the land as well as the ecological function of the mines. By the end of 2018, the vegetation area of the mines reached 46,700 sq.m. through planting trees and paving grass; the reclamation area of waste mines reached 501,000 sq.m. In total, the Group invested approximately RMB270,000 in greening the mining area.

EMPLOYER RESPONSIBILITY

A company's most valuable asset is its employees, whose talent is essential for a company to enhance its operation management and competitiveness. Upholding the people-oriented principle, the Group aims to build a team of professionals and provide them with a safe and healthy workplace to unleash their full potential. Through taking up employer responsibility, the Group aims to promote sustainable development of both the individual employees and the Group.

生態保護

本集團嚴格遵守《中華人民共和國水土保持法》及《中華人民共和國水土保持法實施條例》。由於本集團部分礦區為露天作業，故開採過程中會破壞原本的植被，同時尾礦廢石等堆場亦會佔用部分生態資源。為將其對環境的影響減至最低，本集團已在旗下所有子公司的場址種植植被及進行復原工作。

2018年，本集團已進行秀水河鐵礦及白草鐵礦的復原工作，修復被破壞的區域，令斜坡更穩固，從而消除地質隱患。此外，本集團亦種植植被，恢復土地的基本用途及鐵礦的生態功能。截至2018年底為止，通過植樹及植草，鐵礦的植被面積達46,700平方米，廢礦的復原面積則達501,000平方米。本集團合共投入約人民幣270,000元綠化採礦區域。

僱主責任

僱員乃企業最珍貴的資產，人才更是公司提升營運管理及競爭力的關鍵。本集團恪守「以人為本」方針，竭力建立專業團隊，為僱員提供安全健康的工作環境，讓其盡展所長。本集團履行僱主責任，冀能推動僱員個人與本集團不斷並肩成長。

Employee Recruitment

The Group operates in full compliance with the *Labour Law of the People's Republic of China*, the *Labour Contract Law of the People's Republic of China* and other national laws and regulations, including signing employment contracts with all employees and making full social insurance contributions for employees promptly. To standardise the employment environment and protect the basic rights and interests of employees, the Group has formulated the *Human Resources Management Measures* and the *Working Time Management Measures* with specific provisions on employees' basic obligations and rights, recruitment and hiring, promotion, working hours, rest periods, and a mechanism of reward and punishment. These measures eliminate all forms of gender, age, race, religious, and political discrimination in the recruitment process, remuneration system, training mechanism, and promotion channels, thereby ensuring that all employees are provided with fair, just, and open opportunities. The Group does not use child labour or forced labour in any form. The Group checks the identity card to ensure that employees and third-party labour dispatch staff meet the statutory requirements, and set up employee supervision positions to ensure that no forced labour incidents occur. If a minor labourer is identified in employment, the Group will arrange for special employees to bring the minor home to their lawful guardians. In 2018, no violation of laws and regulations concerning child labour and forced labour occurred.

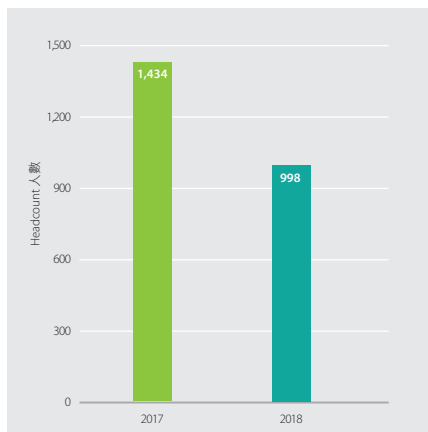
As at 31 December 2018, the Group had a total headcount of 998 employees with labour contracts.

僱員招聘

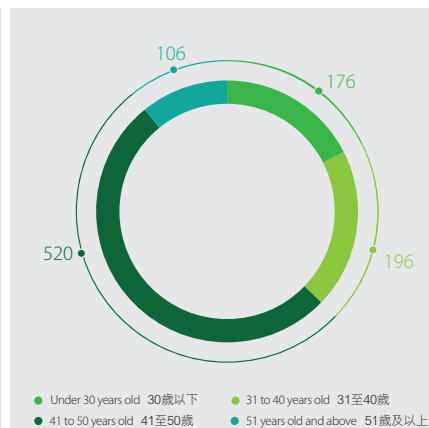
本集團的營運全面遵守《中華人民共和國勞動法》及《中華人民共和國勞動合同法》以及其他國家法律及法規，包括與所有僱員訂立勞動合同，並準時繳足僱員保險供款。為使工作環境標準化，並保障僱員的基本權利及權益，本集團已制定《人力資源管理辦法》及《勞動時間管理辦法》，對僱員基本義務及權利、招聘及僱傭過程、工作時數、假期、晉升以及賞罰機制作出具體規定。該等措施消除招聘過程、薪酬制度、培訓機制及晉升通道中的一切性別、年齡、種族、宗教及政治歧視，從而保證所有僱員均享有公平、公正及公開的機會。本集團絕不以任何形式使用童工或強制勞工，通過查驗身份證確保入職員及第三方勞務派遣員工滿足法定要求，設置員工監督崗位確保無強制勞工事件發生。如發現任何未成年勞工受聘，本集團將委派指定僱員將未成年人士送返家中交予合法監護人。2018年，本集團未有在童工及強制勞工方面違反法律及法規。

截至2018年12月31日，本集團共有998名已經訂立勞動合同的僱員。

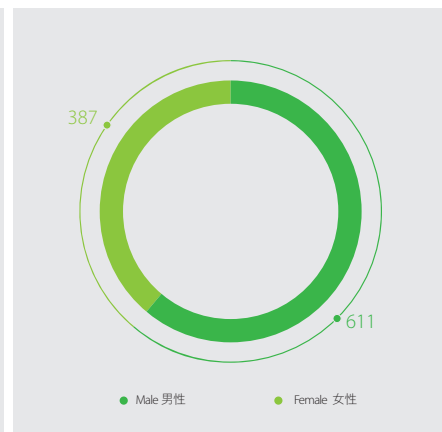
Total workforce
人員總數



Total workforce by age group
按年齡組別劃分的人員總數



Total workforce by gender
按性別劃分的人員總數



Individual Development

The Group fully recognises the importance of talent and commits to providing a long-term scheme for talent development. Through setting out a clear promotion path and providing various training programmes, the Group helps each employee to build up his/her competence for the long term.

The Group provides equal career opportunities and transparent promotion channels for staff at different levels and encourages employees to realise their career goals. The Group has formulated measures such as the *Aba Mining Administrative Measures on Talents Selection and Training* and set out clear selection criteria and guidance to help employees to better understand the promotion mechanism and continuously improve their professional skills.

The Group attaches great importance to the improvement and promotion of the core skills of employees. In response to job needs and staff demands, the Group listens to employees' opinions and suggestions, follows the *Administrative Measures for Training*, and develops a variety of training schemes. Through internal and external career training such as practical field training and technical workshops, these measures provide employees with the necessary knowledge and practical skills, thereby satisfying their needs for on-the-job development.

Employees at different positions have different needs. For middle and senior management, better communication enables symmetric information and joint operations. To facilitate exchanges of business experience among middle and senior management, foster strengths and circumvent weaknesses, and solve possible operational issues, the Group arranges various forms of training regularly. The training not only strengthens interactions among middle and senior management, but also improves their management capabilities. For workers on the production line, safety and professional skills matter the most. The Group carries out effective training on safety, technique, technological process, and corporate culture. To ensure active engagement in the long run, the Group has implemented an inspection system to record each training that requires monthly review.

個人發展

本集團深知人才彌足珍貴，並致力向優秀員工提供長遠發展計劃。本集團設有清晰的晉升路徑及全面的培訓課程，協助每一名僱員打造自己的長期競爭力。

本集團為各級員工提供公平的事業機會和透明的晉升渠道，並鼓勵僱員實踐事業目標。本集團已制定《阿壩礦業人才選拔培養管理辦法》等措施，列明甄選標準和指引，幫助僱員深入瞭解晉升機制，不斷提升專業技能。

本集團非常注重改善及提升僱員的核心技能。為滿足職位需要及員工需要，本集團細心聆聽僱員意見及建議，遵循《培訓管理辦法》，打造多元的培訓計劃。透過在職實習培訓及技能工作坊等內外業務培訓，僱員獲得必要的知識和實用技能，從而滿足在職發展所需。

不同崗位僱員各有所需。良好溝通能力有助中高級管理人員有系統地交流及合作。為促進中高層管理人員分享業務經驗、取長補短並解決可能出現的營運問題，本集團定期安排不同的培訓，不但加強中高級管理人員間的互動，更提升彼等的管理能力。對於生產線職工，則以安全及專業技能為重中之重。本集團安排的安全、技能、技術工藝及企業文化培訓行之有效。為長遠鼓勵員工積極參與，本集團已推行檢定制，記錄每項培訓，並要求每月檢討。

Average Training Hours Completed Per Employee by Position (Hours)

按職位劃分的僱員人均完成培訓時數（小時）

		2018 2018年	2017 2017年
Senior management	高級管理人員	24.28	5.26
Middle management	中級管理人員	45.50	8.47
Staff	員工	23.28	14.39



Occupational Health and Safety

As a mining and processing company, the Group attaches great importance to its management of safe production to reduce the potential occurrence of major accidents, protect the safety of employees and residents of surrounding communities, and ensure stable and continuous production and operations.

In order to maintain a safe working environment, the Group strictly follows the rules in the *Production Safety Law of the People's Republic of China* and the *Law of the People's Republic of China on the Prevention and Control of Occupational Diseases*. Moreover, the Group strengthens occupational health and safety management by complying with the *Occupational Health and Safety Management Systems* (GB/T28001-2011).

In 2018, the Group focused on improving the safety management systems, updating relevant guidelines, including the *Safety and Environmental Management System*, the *Safe Production Responsibility Management System*, the *Administrative Measures for Implementation of Labour Supply* and the *Occupational Injury Management System*, developing emergency response proposals and monitoring, inspecting and managing production-related accidents, and strengthening the safety management of hazardous production and operational sites. The aim of all these measures was to prevent accidents, ensure smooth and safe production, and avoid casualties, occupational hazards, and major economic losses.

In Mancala Holdings, a set of integrated occupational health and safety and training system has been adopted to manage the diverse range of activities in which the company participates. The system conforms to the recommendations of the AS/NZS 4801 *Occupational Health and Safety Management System*.

職業健康與安全

作為一間採礦選礦公司，本集團極為重視安全生產管理，盡力將出現重大事故的機會減至最低，保障僱員和週邊社區居民的安全，同時確保生產營運保持穩定。

為維持工作環境安全，本集團嚴格遵守《中華人民共和國安全生產法》及《中華人民共和國職業病防治法》的規定，亦按照《職業健康安全管理体系》(GB/T28001-2011)加強職業健康安全管理。

2018年，本集團專注於改善安全管理制度，更新相關指引，包括《安全環保管理辦法》、《崗位安全生產責任制》、《勞動用品實施管理辦法》及《工傷管理辦法》，並草擬應急救援預案，以監察、調查並處理生產事故，同時鞏固高危生產及營運場址的安全管理，藉此防患於未然，讓安全生產保持暢順，避免傷亡、職業危害及重大經濟損失。

開曼曼卡拉已採納一套綜合職業健康與安全及培訓制度，以管理其參與的各項不同活動。該制度符合AS/NZS 4801《職業健康與安全管理制度》的推薦建議。



Safety Management System of Mancala Holdings 開曼曼卡拉安全管理制度

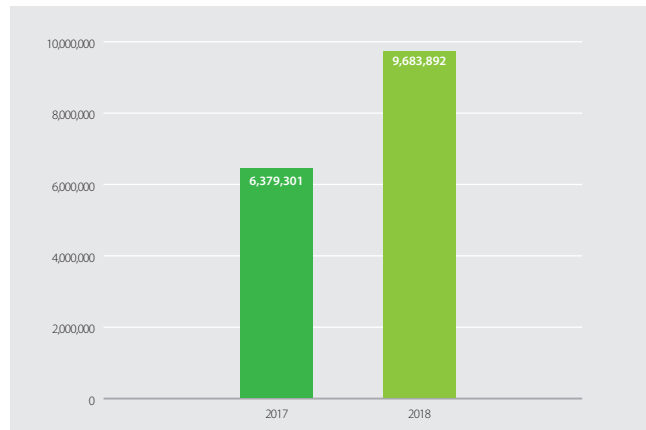
Commitment & Leadership 承擔及領導	Risk Management 風險管理	Documentation & Documental Control 存檔及文件管理	Legislative Compliance 法例合規	Organisation & Responsibilities 組織及責任	Training & Competency 培訓及資格
01 Policies 政策 02 Mancala Core Values 開曼曼卡拉核心價值 03 Mancala Safety Management Plan 開曼曼卡拉安全管理計劃 04 Mancala Cardinal Rules 開曼曼卡拉基本規則 05 Key Performance Indicators 關鍵績效指標 06 OHS Roles and Responsibilities 職安健角色及責任 07 OHS Annual Report 職安健年報 08 OHS Staff and Resources 職安健人員及資源 09 OHS Strategy-Objectives & Targets 職安健策略宗旨及目標 10 EOM Management Meetings 企業經營模型管理會議	01 Operational Risk Assessments 營運風險評估 02 Job Safety Analysis 職業安全分析 03 ManSafe Checklists ManSafe清單 04 Hazard Reports 危害報告	01 Document Control Register 文件管理冊 02 Health & Hygiene 健康及衛生 03 Energy Isolation & Tagging 能源區分及標籤 04 Working at Heights 高空工作 05 Confined Space 密閉空間 06 Electrical Safety 電力安全 07 Cranes & Lifting 起重機及吊機 08 Pressurised Systems 壓力系統 09 Mobile Equipment 移動設備 10 Ground Stability 地面穩固性 11 Explosive and Magazine Plans 炸藥及火藥庫規劃 12 Remote Control Equipment 遙控設備 13 Guidelines 指引 14 SWMS & Work Instructions 安全工作方法聲明及工作指示 15 Compliance Registers 合規登記冊 16 Management Plans 管理計劃 17 Medical Management 醫療管理 18 OHS-Previous Standards 職安健—過往標準 19 Share Point Template 分享點範本 20 Tender Info 招標資料	01 Federal Legislation 聯邦法例 02 State Legislation 州法例 03 Australian Standards 澳洲標準 04 Codes of Practice 常規守則 05 Permits and Licensing 許可及執照 06 Safe Work Australia 澳洲安全工作 07 SDS's 安全資料表 08 MDG Guidelines 千禧發展目標指引 09 Worksafe Compliance & Visits 工作安全合規及視察	01 Organisational Chart 組織圖 02 Position Description 職位描述	01 Training Management Plan 培訓管理計劃 02 Training Competency & Skills Matrix 培訓資格及技能架構 03 Mancala Inductions 開曼曼卡拉迎新 04 Visitor Induction 訪客迎新 05 Employee-OHS-Files 僱員職安健檔案 06 Toolbox Topics & Safety Talks 工具箱議題及安全講座 07 MVM Training MVM培訓 08 Monthly Safety Themes 每月安全主題 09 RII Units RII單位 10 General Training 一般培訓 11 USI Register USI登記冊 12 TasTAFE Contract TasTAFE合約
Communication & Consultation 溝通及諮詢	Incident & Injury Management 事故及傷亡管理	Emergency Management 緊急管理	Monitoring & Review 監察及檢討	Contractor Selection & Management 承包商甄選及管理	Change Management 修改管理
01 Safety Alerts 安全警示 02 Safety Notifications 安全提示 03 Maintenance Bulletins 維修簡報 04 Safety Meetings 安全會議 05 Newsletters 新聞簡報 06 External Safety Alerts 外部安全警示 07 Mancala Business Services Weekly Update 開曼曼卡拉商業服務每週更新 08 General Presentations 一般簡報 09 Health & Wellness Initiatives 身心健康倡議	01 Incident Templates 事故範本 02 Incidents & Events 事故及事件	01 Crisis Management Plan 危機管理計劃 02 Emergency Management Plan 緊急管理計劃 03 Evacuation Plans 疏散計劃 04 Evacuation Drills 疏散演習 05 First Aid Facilities 急救設施 06 Trigger Action Response Plans 觸發行動回應計劃 (TARP) 07 Emergency Equipment 緊急設施 08 Employee Assistance Programmes 僱員援助計劃	01 Safety Improvement Audits 安全改進審核 02 Task Observations 工作觀察 03 Workshop Inspections 車間檢查 04 Underground Inspections 地底檢查 05 Internal OHS System Audits 內部職安健系統審核 06 External OHS System Audits 外部職安健系統審核	01 Contractor Work Permits 承包商工作許可 02 Contractor Category Table 承包商分類表 03 Post Award Project Specific Requirements 中標後項目具體要求 04 Project Prestart Compliance Checklist 項目開展前合規清單 05 Sub-Contractor Tender Questionnaire 分包商招標問卷 06 Contractor Inspection Checklist 承包商檢查清單 07 Contractor Meeting Minutes 承包商會議紀錄 08 Services Contracts 服務合約	01 Template 範本 02 Design Risk Assessment 設計風險評估

In 2018, the Group recorded zero fatalities in its operations. The Group commits itself to leveraging all available resources to prevent workplace accidents and provide assistance to injured employees and their families as much as it could. In total, the Group invested approximately RMB9.7

2018年，本集團的營運並無發生致命事故。本集團承諾用盡一切資源，盡其所能避免工作場所發生意外，並協助受傷僱員和家屬。本集團於2018年合共作出約人民幣9.7百萬元的安全管理

million in safety production management in 2018. In 2018, the Group provided occupational disease inspections for 588 employees, with one employee from Xiushuihe Mine diagnosed with serious occupational hearing loss.

投資。2018年，本集團向588名僱員提供職業病檢查，秀水河鐵礦1名僱員被診斷患上嚴重職業性失聰。



Investment in Safe Production Management (RMB)
生產安全管理投資（人民幣元）

To further improve employee awareness of risk prevention and risk response abilities, as well as to increase safety knowledge and promote a culture of safety, the Group has formulated the *Administrative Measures for Occupational Health* and developed safety training and education schemes.

為進一步提高僱員的風險預防意識和應變能力，同時提升安全知識並培養安全文化，本集團已制定《職業健康管理辦法》並安排安全培訓及教育課程。

Employee Engagement

The Group has established an industry-competitive employee remuneration and incentive system. The *Administrative Measures on Compensation and Benefit* specifies the remuneration structure and adjustment mechanism for employees.

僱員參與

本集團設立了具有行業競爭力的僱員薪酬及獎勵制度。《薪酬管理辦法》訂明僱員的薪酬架構及調整機制。

To safeguard employees' physical and mental health and maintain their right to leave, the Group, in view of its actual situation, has established the *Administrative Measures on Employee Leave* in accordance with the *Labour Law of the People's Republic of China* and *Regulations for Employees' Paid Annual Leaves*. The measures clearly explain employees' leave rights and provide a range of detailed solutions to possible disagreements. As legally required, the Group offers a remuneration package that includes social insurance, pension insurance, and maternity leaves. In 2018, the Group provided employees with full social insurance coverage in China.

為保障僱員身心健康以及休息的權利，本集團已根據《中華人民共和國勞動法》及《職工帶薪年休假條例》並按照自身實際情況制定《員工休假管理辦法》，闡明僱員的休假權利，並提供多種詳盡辦法解決可能出現的爭議。本集團的薪酬待遇亦依法覆蓋社會保險、退休金保險及產假。2018年，本集團為中國僱員提供全面的社會保險保障。



COMMUNITY

As a socially responsible corporation, the Group is always aware of the community's needs and has actively supported its economic and cultural development by providing job opportunities, bringing more residents into business, and encouraging employees to participate in volunteering activities. Furthermore, the Group fully respects minorities' cultural values and is dedicated to taking targeted measures to help residents to lift themselves out of poverty.

In 2018, the Group focused on alleviating poverty in one village near Huili County, Sichuan Province. The Group visited the village, opened communication channels to understand its needs, and provided the local people with basic living supplies. Moreover, the Group organised volunteering activities during the Dragon Boat Festival and sponsored the annual local badminton competition to bring its relationship with the local community closer. By the end of 2018, the Group invested approximately RMB485,000 and about 30 hours on community development.

社區

本集團不忘履行社會責任，一直瞭解社區需要，通過提供工作機會、推動居民營商、鼓勵僱員參與志願活動，積極支持社區經濟及文化發展。此外，本集團充分尊重少數民族的文化及價值觀，並致力採取精準措施，協助當地居民自力更生，脫離貧困。

2018年，本集團於四川省會理縣一條村莊積極扶貧，探訪村民、開通溝通渠道、瞭解村民需要，並為當地群眾提供基本生活所需。此外，本集團於端午節舉行義工活動，並贊助當地一年一度的財通杯羽毛球比賽，拉近與當地社區的關係。截至2018年底為止，本集團為社區發展盡心盡力，合共投入約人民幣485,000元及約30小時服務。

GLOSSARY

詞彙

“Aba Mining”		Aba Mining Co., Ltd.*, a limited liability company established in the PRC on 27 February 2004 and an indirect wholly-owned subsidiary of the Company
「阿壩礦業」	指	阿壩礦業有限公司，一間於2004年2月27日在中國成立的有限責任公司，為本公司的間接全資子公司
“Baicao Mine”		the vanadium-bearing titano-magnetite mine located in Huili County, Sichuan Province and operated by Huili Caitong, with a mining area of 1.88 sq.km.
「白草鐵礦」	指	一個位於四川省會理縣的鈮鈦磁鐵礦，由會理財通經營，採礦面積為1.88平方公里
“Baicao Processing Plant”		the ore processing plant located near the Baicao Mine and operated by Huili Caitong
「白草洗選廠」	指	位於白草鐵礦附近的礦石洗選廠，由會理財通經營
“Board”		the board of directors of the Company
「董事會」	指	本公司董事會
“China” or “PRC”		the People’s Republic of China excluding, for the purpose of this report, Hong Kong, the Macau Special Administrative Region of the PRC and Taiwan
「中國」	指	中華人民共和國，就本報告而言，不包括香港、中國澳門特別行政區及台灣
“China VTM Mining”, “Company”, “we” or “us”		China Vanadium Titano-Magnetite Mining Company Limited, a limited liability company incorporated in the Cayman Islands on 28 April 2008
「中國鐵鈦」、「本公司」或「我們」	指	中國鈮鈦磁鐵礦業有限公司，一間於2008年4月28日在開曼群島註冊成立的有限公司
“Cizhuqing Mine”		the vanadium-bearing titano-magnetite mine located in Huili County, Sichuan Province and operated by Huili Caitong, with a mining area of 1.279 sq.km.
「茨竹箐鐵礦」	指	一個位於四川省會理縣的鈮鈦磁鐵礦，由會理財通經營，採礦面積為1.279平方公里
“GHG emissions”		a gas in the atmosphere that absorbs and emits radiation within the thermal infrared range. This process is the fundamental cause of the greenhouse effect. The primary greenhouse gases in the earth’s atmosphere are water vapor, carbon dioxide, methane, nitrous oxide and ozone
「溫室氣體排放物」	指	大氣層中吸收並散發紅外線輻射的氣體，此吸收及散發過程乃溫室效應的根本原因。地球大氣層中的主要溫室氣體為水蒸氣、二氧化碳、甲烷、氧化亞氮及臭氧
“Group”		the Company and its subsidiaries
「本集團」	指	本公司及其子公司

“Haibaodang Mine”		the vanadium-bearing titano-magnetite mine located in Renhe District, Panzhihua City, Sichuan Province, with an exploration area of 26.2 sq.km.
「海保函鐵礦」	指	一個位於四川省攀枝花市仁和區的釩鈦磁鐵礦，勘查面積為26.2平方公里
“Hailong Processing Plant”		the ore processing plant located near the Cizhuqing Mine and operated by Huili Caitong
「海龍洗選廠」	指	位於茨竹箐鐵礦附近的礦石洗選廠，由會理財通經營
“Heigutian Processing Plant”		the ore processing plant located near the Yangqueqing Mine and owned by Huili Caitong
「黑谷田洗選廠」	指	位於陽雀箐鐵礦附近的礦石洗選廠，由會理財通擁有
“Hong Kong”		the Hong Kong Special Administrative Region of the PRC
「香港」	指	中國香港特別行政區
“Huili Caitong”		Huili County Caitong Iron and Titanium Co., Ltd., established in the PRC on 7 July 1998 and has been a foreign equity joint venture in the PRC since 29 December 2010, and an indirect wholly-owned subsidiary of the Company
「會理財通」	指	會理縣財通鐵鈦有限責任公司，於1998年7月7日在中國成立，並自2010年12月29日起成為中國的外商合資經營企業，為本公司的間接全資子公司
“iron”		a silvery-white, lustrous, malleable, ductile, magnetic or magnetisable, metallic element occurring abundantly in combined forms, notably in hematite, limonite, magnetite, and taconite, and alloyed for use in a wide range of important structural materials
「鐵」	指	一種銀白色的、有光澤、有韌性、可延展、有磁性或可被磁化的金屬元素，以化合物形式大量存在，主要有赤鐵礦、褐鐵礦、磁鐵礦及角岩，在許多種重要結構材料中用作合金的一種
“iron concentrate(s)”		concentrate(s) whose main mineral content (by value) is iron
「鐵精礦」	指	主要礦物成份（按價值）為鐵的精礦
“iron ore”		compounds of iron and oxygen (iron oxides) mixed with impurities (gangue); it is a mineral which when heated in the presence of a reductant will yield metallic iron
「鐵礦石」	指	混合雜質（脈石）的鐵與氧混合物（氧化鐵）；是一種與還原劑一起加熱時會成為金屬鐵的礦物
“Iron Pelletising Plant”		the plant that produces iron pellets and is located in Huili County, Sichuan Province, which is approximately 5.5 km from the Xiushuihe Mine and operated by Huili Caitong
「球團礦廠」	指	位於四川省會理縣生產球團礦的工廠，由會理財通經營，距離秀水河鐵礦約5.5公里
“kL”		Kiloliter(s), a metric unit measure of volume
「千升」	指	容量量度公制單位千公升

“kgce” 「千克標準煤」	指	Kilogram of coal equivalent, a unit measure of energy intensity 千克標準煤·能量強度度量單位
“Mancala Holdings” 「開曼曼卡拉」	指	Mancala Holdings Limited, the legal and beneficial owner of the entire issued share capital of MHPL Mancala Holdings Limited·曼卡拉控股全部已發行股本的法律上兼實益擁有人
“Maoling Extended Exploration Area” 「毛嶺延伸勘探區域」	指	formerly an independent exploration region with an area of 2.83 sq.km. covered under the extended exploration permit of the Maoling Mine (covering 1.9 sq.km. of the mining area of the Maoling Mine), has been consolidated with the Yanglongshan Mine since September 2012 to form the Maoling-Yanglongshan Mine 原為毛嶺鐵礦延伸勘探許可證所覆蓋面積為2.83平方公里(覆蓋了1.9平方公里的毛嶺鐵礦採礦面積)的獨立勘探區域,自2012年9月起與羊龍山鐵礦合併成為毛嶺—羊龍山鐵礦
“Maoling Mine” 「毛嶺鐵礦」	指	an ordinary magnetite mine located in Wenchuan County, Sichuan Province, with a mining area of 1.9 sq.km. 一個位於四川省汶川縣的普通磁鐵礦,採礦面積為1.9平方公里
“Maoling Processing Plant” 「毛嶺洗選廠」	指	the ore processing plant located near the Maoling-Yanglongshan Mine and operated by Aba Mining 位於毛嶺—羊龍山鐵礦附近的礦石洗選廠,由阿壩礦業經營
“Maoling-Yanglongshan Mine” 「毛嶺—羊龍山鐵礦」	指	an exploration region with a total area of 11.6 sq.km. covered under the exploration permit of the Maoling-Yanglongshan Mine (the mining area covered is owned by the Maoling Mine), formed from the combination of the Maoling Extended Exploration Area and the Yanglongshan Mine since September 2012 and operated by Aba Mining 由毛嶺—羊龍山鐵礦勘探許可證所覆蓋總面積為11.6平方公里的勘探區域,由毛嶺延伸勘探區域和羊龍山鐵礦自2012年9月起合併而成,所覆蓋的採礦範圍由毛嶺鐵礦擁有,並由阿壩礦業經營
“MHPL” 「曼卡拉控股」	指	Mancala Holding Pty Ltd, a limited liability company incorporated in Australia on 8 March 1990 and a subsidiary of the Company, 81% equity interest of which is indirectly owned by the Company Mancala Holding Pty Ltd,一間於1990年3月8日在澳洲註冊成立的有限公司,為本公司的子公司,由本公司間接擁有81%股本權益
“MWh” 「兆瓦時」	指	Megawatt hour(s), a unit of energy 能量單位兆瓦時

"ore processing"		the process which in general refers to the extraction of usable portions of ores by using physical and chemical extraction methods
「礦石洗選」	指	利用物理及化學方式提取礦石中 useful 部分的廣義工序
"Paris Agreement"		a binding international treaty adopted at the end of the Paris United Nations Climate Change Conference (Twenty-first Conference of the Parties to the United Nations Framework Convention on Climate Change) on the climate, tailored to the ambitions and capabilities of all nations. China has formally joined the Paris Agreement and continued to implement its global warming pledge
「《巴黎協定》」	指	於巴黎聯合國氣候變化大會（即《聯合國氣候變化框架公約》第二十一屆締約方大會）結束時採納、為因應各國目標及能力量身製訂的具約束力國際氣候條約。中國已正式加入《巴黎協定》，並繼續履行其全球暖化承諾
"RMB"		the lawful currency of the PRC
「人民幣」	指	中國法定貨幣
"Shigou Gypsum Mine"		Shigou gypsum mine located at Hanyuan County, Ya'an City, Sichuan Province, with a mining area of 0.1228 sq.km.
「石溝石膏礦」	指	位於四川省雅安市漢源縣的石溝石膏礦，採礦面積為0.1228平方公里
"Sichuan Province"		the Sichuan Province of the PRC
「四川省」	指	中國四川省
"sq.km."		square kilometres
「平方公里」	指	平方公里
"sq.m."		square metres
「平方米」	指	平方米
"TFe"		the symbol for denoting total iron
「TFe」	指	表示全鐵的符號
"titanium concentrate(s)"		concentrate(s) whose main content (by value) is titanium dioxide
「鈦精礦」	指	主要成份（按價值）為二氧化鈦的精礦
"Xiushuihe Mine"		the vanadium-bearing titano-magnetite mine located in Huili County, Sichuan Province and operated by Xiushuihe Mining, with a mining area of 0.52 sq.km.
「秀水河鐵礦」	指	一個位於四川省會理縣的鈦鈦磁鐵礦，由秀水河礦業經營，採礦面積為0.52平方公里
"Xiushuihe Mining"		Huili County Xiushuihe Mining Co., Ltd.*, a limited liability company established in the PRC on 26 June 2007 and a subsidiary of the Company, in which the Company indirectly owns 95.0% equity interest
「秀水河礦業」	指	會理縣秀水河礦業有限公司，一間於2007年6月26日在中國成立的有限責任公司，為本公司的子公司，由本公司間接擁有95.0%股本權益



“Xiushuihe Processing Plant”		the ore processing plant located near the Xiushuihe Mine and operated by Xiushuihe Mining
「秀水河洗選廠」	指	位於秀水河鐵礦附近的礦石洗選廠，由秀水河礦業經營
“Yanglongshan Mine”		an ordinary magnetite mine located in Wenchuan County, Sichuan Province, formerly an independent exploration region with an area of 8.79 sq.km. covered under the exploration permit of the Yanglongshan Mine, and has been consolidated as the Maoling-Yanglongshan Mine with the Maoling Extended Exploration Area since September 2012
「羊龍山鐵礦」	指	一個位於四川省汶川縣的普通磁鐵礦，原為由羊龍山鐵礦勘查許可證所覆蓋面積為8.79平方公里的獨立勘查區域，自2012年9月起與毛嶺延伸勘查區域合併為毛嶺—羊龍山鐵礦
Yangqueqing Mine		the vanadium-bearing titano-magnetite mine located in Huili County, Sichuan Province and operated by Huili Caitong, with a mining area of 0.25 sq.km.
「陽雀箐鐵礦」	指	一個位於四川省會理縣的鈦鈦磁鐵礦，由會理財通經營，採礦面積為0.25平方公里

* For identification purpose only

* 僅供識別



INDEX 索引

HKEX ESG General Disclosures and Key Performance Indicators ("KPIs")

港交所ESG一般披露及關鍵績效指標

Disclosures and KPIs	Page
披露及關鍵績效指標	頁次
Environmental	
環境	
A1 : Emissions	
A1 : 排放物	
General Disclosure	17, 20-23
一般披露	
A1.1 The types of emissions and respective emissions data	21-23
A1.1 排放物種類及相關排放數據	
A1.2 Greenhouse gas emissions in total (in tons) and, where appropriate, intensity (e.g. per unit of production volume, per facility)	23
A1.2 溫室氣體總排放量（以噸計算）及（如適用）密度（如以每產量單位、每項設施計算）	
A1.3 Total hazardous waste produced (in tons) and, where appropriate, intensity (e.g. per unit of production volume, per facility)	21
A1.3 所產生有害廢棄物總量（以噸計算）及（如適用）密度（如以每產量單位、每項設施計算）	
A1.4 Total non-hazardous waste produced (in tons) and, where appropriate, intensity (e.g. per unit of production volume, per facility)	20-21
A1.4 所產生無害廢棄物總量（以噸計算）及（如適用）密度（如以每產量單位、每項設施計算）	
A1.5 Description of measures to mitigate emissions and results achieved	21-22, 24
A1.5 描述減低排放量的措施及所得成果	
A1.6 Description of how hazardous and non-hazardous wastes are handled, reduction initiatives and results achieved	20-21
A1.6 描述處理有害及無害廢棄物的方法、減低產生量的措施及所得成果	



Disclosures and KPIs		Page
披露及關鍵績效指標		頁次
A2 : Use of Resources		
A2 : 資源使用		
General Disclosure		18-19
一般披露		
A2.1	Direct and indirect energy consumption by type (e.g. electricity, gas or oil) in total (kWh in '000s) and intensity (e.g. per unit of production volume, per facility)	20
A2.1	按類型劃分的直接及間接能源（如電、氣或油）總耗量（以千個千瓦時計算）及密度（如以每產量單位、每項設施計算）	
A2.2	Water consumption in total and intensity (e.g. per unit of production volume, per facility)	18
A2.2	總耗水量及密度（如以每產量單位、每項設施計算）	
A2.3	Description of energy use efficiency initiatives and results achieved	19
A2.3	描述能源使用效益計劃及所得成果	
A2.4	Description of whether there is any issue in sourcing water that is fit for purpose, water efficiency initiatives and results achieved	18-19
A2.4	描述求取適用水源上可有任何問題，以及提升用水效益計劃及所得成果	
A2.5	Total packaging material used for finished products (in tons) and, if applicable, with reference to per unit produced	17
A2.5	製成品所用包裝材料的總量（以噸計算）及（如適用）每生產單位佔量	
A3 : The Environment and Natural Resources		
A3 : 環境及天然資源		
General Disclosure		17, 24
一般披露		
A3.1	Description of the significant impacts of activities on the environment and natural resources and the actions taken to manage them	24
A3.1	描述業務活動對環境及天然資源的重大影響及已採取管理有關影響的行動	



Disclosures and KPIs		Page
披露及關鍵績效指標		頁次
Social		
社會		
Employment and Labour Practices		
僱傭及勞工常規		
B1 : Employment		
B1 : 僱傭		
General Disclosure		25, 29
一般披露		
B1.1	Total workforce by gender, employment type, age group and geographical region	25
B1.1	按性別、僱傭類型、年齡組別及地區劃分的僱員總數	
B1.2	Employee turnover rate by gender, age group and geographical region	Information related to the Group's operation data
B1.2	按性別、年齡組別及地區劃分的僱員流失比率	涉及本集團運營數據的資料
B2 : Health and Safety		
B2 : 健康與安全		
General Disclosure		27-29
一般披露		
B2.1	Number and rate of work-related fatalities	28
B2.1	因工作關係而死亡的人數及比率	
B2.2	Lost days due to work injury	Under calculation
B2.2	因工傷損失工作日數	計算中
B2.3	Description of occupational health and safety measures adopted, how they are implemented and monitored	27-29
B2.3	描述所採納的職業健康與安全措施，以及相關執行及監察方法	
B3 : Development and Training		
B3 : 發展及培訓		
General Disclosure		26
一般披露		
B3.1	The percentage of employees trained by gender and employee category (e.g. senior management, middle management)	Under calculation
B3.1	按性別及僱員類別（如高級管理層、中級管理層等）劃分的受訓僱員百分比	計算中
B3.2	The average training hours completed per employee by gender and employee category	26
B3.2	按性別及僱員類別劃分，每名僱員完成受訓的平均時數	



Disclosures and KPIs		Page
披露及關鍵績效指標		頁次
B4 : Labour Standards		
B4 : 勞工準則		
General Disclosure		25
一般披露		
B4.1	Description of measures to review employment practices to avoid child and forced labour	25
B4.1	描述檢討招聘慣例的措施以避免童工及強制勞工	
B4.2	Description of steps taken to eliminate such practices when discovered	25
B4.2	描述在發現違規情況時消除有關情況所採取的步驟	
Operating Practices		
營運慣例		
B5 : Supply Chain Management		
B5 : 供應鏈管理		
General Disclosure		16
一般披露		
B5.1	Number of suppliers by geographical region	Under calculation
B5.1	按地區劃分的供應商數目	計算中
B5.2	Description of practices relating to engaging suppliers, number of suppliers where the practices are being implemented, how they are implemented and monitored	16
B5.2	描述有關聘用供應商的慣例，向其執行有關慣例的供應商數目、以及有關慣例的執行及監察方法	
B6 : Product Responsibility		
B6 : 產品責任		
General Disclosure		16-17
一般披露		
B6.1	Percentage of total products sold or shipped subject to recalls for safety and health reasons	No related issue
B6.1	已售或已運送產品總數中因安全與健康理由而須回收的百分比	無相關事項
B6.2	Number of products and service related complaints received and how they are dealt with	No related issue
B6.2	接獲關於產品及服務的投訴數目以及應對方法	無相關事項
B6.3	Description of practices relating to observing and protecting intellectual property rights	No related issue
B6.3	描述與維護及保障知識產權有關的慣例	無相關事項
B6.4	Description of quality assurance process and recall procedures	16-17
B6.4	描述質量檢定過程及產品回收程序	
B6.5	Description of consumer data protection and privacy policies, how they are implemented and monitored	No related issue
B6.5	描述消費者資料保障及私隱政策，以及相關執行及監察方法	無相關事項

Disclosures and KPIs		Page
披露及關鍵績效指標		頁次
B7: Anti-corruption		
B7 : 反貪污		
General Disclosure		15
一般披露		
B7.1	Number of concluded legal cases regarding corrupt practices brought against the issuer or its employees during the reporting period and the outcomes of the cases	15
B7.1	於匯報期內對發行人或其僱員提出並已審結的貪污訴訟案件的數目及訴訟結果	
B7.2	Description of preventive measures and whistle-blowing procedures, how they are implemented and monitored	15
B7.2	描述防範措施及舉報程序，以及相關執行及監察方法	
Community		
社區		
B8: Community Investment		
B8 : 社區投資		
General Disclosure		30
一般披露		
B8.1	Focus areas of contribution (e.g. education, environmental concerns, labour needs, health, culture, sport)	30
B8.1	專注貢獻範疇（如教育、環境事宜、勞工需求、健康、文化、體育）	
B8.2	Resources contributed (e.g. money or time) to the focus area	30
B8.2	在專注範疇所動用資源（如金錢或時間）	



FEEDBACK FORM

讀者反饋表

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June 2019
2019年6月



**CHINA VANADIUM
TITANO-MAGNETITE MINING
COMPANY LIMITED**

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