



**SANDFIRE**  
RESOURCES NL



# 2019 Sustainability Report



# Corporate directory

ABN 55 104 154 185

**PRINCIPAL PLACE OF BUSINESS & REGISTERED OFFICE**

Level 2, 10 Kings Park Road, West Perth, Western Australia 6005  
Australia  
T: +61 8 6430 3800  
F: +61 8 6430 3849  
E: [admin@sandfire.com.au](mailto:admin@sandfire.com.au)  
W: [www.sandfire.com.au](http://www.sandfire.com.au)

**SHARE REGISTRY**

Security Transfer Australia Pty Ltd  
770 Canning Highway, Applecross WA 6153  
Australia  
T: +61 8 9315 2233  
F: +61 8 9315 2233  
E: [registrar@securitytransfer.com.au](mailto:registrar@securitytransfer.com.au)

**HOME EXCHANGE**

Australian Securities Exchange Limited  
Central Park  
152-158 St George’s Terrace, Perth WA 6000  
Australia

**AUSTRALIAN SECURITIES EXCHANGE (ASX) CODE**

Ordinary fully paid shares: SFR



# Contents

4	YEAR IN REVIEW
5	CHAIR AND CEO ADDRESS
6	OUR BUSINESS
12	OUR SUSTAINABILITY PRIORITIES
20	RESPECT AND ACCOUNTABILITY
28	SUPPORTING ECONOMIC DEVELOPMENT
38	BUILDING A SAFE AND SUPPORTIVE WORKPLACE
48	OPERATING RESPONSIBLY
56	SANDFIRE AMERICA
60	APPENDIX 1 – GRI INDEX
66	APPENDIX 2 – GLOSSARY
67	APPENDIX 3 – DATA TABLES
70	APPENDIX 4 – ASSURANCE STATEMENT

## About this report

This sustainability report, approved for release by Sandfire Resources’ (Sandfire) Board of Directors, covers the period from 1 July 2018 to 30 June 2019 (FY2019). The report forms part of Sandfire’s annual corporate reporting suite. It offers an account of our contributions to sustainable development and complements Sandfire’s FY2019 Annual Report.

The report covers our 100 per cent owned DeGrussa and Monty Copper-Gold Mines, and exploration activities in Australia. Sandfire holds an 85 per cent interest, via TSX Venture Exchange-listed company Sandfire Resources America Inc. (Sandfire America) in the Black Butte Copper project, located in Montana in the United States. As Sandfire America remains an independent listed company, and the Black Butte Copper project is undergoing permitting, we have provided limited reporting based on publicly available information. In June 2019, Sandfire executed a Scheme Implementation Deed (SID) to acquire MOD Resources Ltd, owner of the undeveloped T3 Copper project in Botswana. At the time of the release of this report, we await final decision on whether this acquisition will be effected. More information on both projects will be provided in the future.

This report has been prepared in accordance with the Global Reporting Initiative Standards Core option. For more information about the Standards, please see [www.globalreporting.org](http://www.globalreporting.org). The currency used throughout this report is Australian Dollars, unless otherwise stated. We engaged an independent external assurance organisation, Bureau Veritas, to provide limited assurance on selected assertions and performance information included in this year’s sustainability report. The full text of Bureau Veritas’ assurance statement can be found on page 68.

Please see our website and accompanying Annual Report available at <http://www.sandfire.com.au/site/investor/reports/annual-reports> for more information about our company activities and operational performance.

For further information about our sustainability approach, or to provide feedback about this report please email [sustainability@sandfire.com.au](mailto:sustainability@sandfire.com.au) or contact +61(08) 6430 3800.

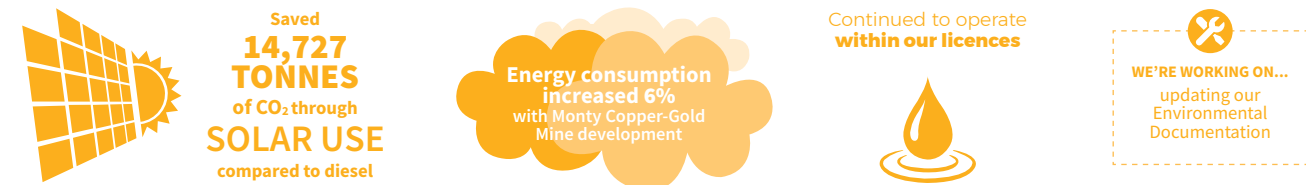


# Year in review

## SUMMARY



## OPERATING RESPONSIBLY



## SUPPORTING ECONOMIC DEVELOPMENT



## STRIVING FOR A SAFE & SUPPORTIVE WORKFORCE



## CONDUCTING OUR BUSINESS WITH RESPECT AND ACCOUNTABILITY



## GLOBAL PIPELINE



# Chair & CEO address

This year marks Sandfire's fifth annual sustainability report. We are proud to present our social and environmental performance for FY2019 and share our plans for FY2020 and beyond.

As a quality mid-tier Australian copper-gold producer taking major steps towards becoming a diversified resource company, we look to the future with great excitement. Sustainability supports our future in a number of ways.

The growing global demand for low-cost, clean energy is stimulating investment in technologies that maximise energy efficiency. As a highly efficient conductor of heat and electricity and a key component in many of these technologies, copper can help meet the energy demands of a growing population while limiting impact on the environment.

Our ongoing focus is to operate our business responsibly and in line with the highest standards. At the heart of our sustainability strategy is our commitment to maintaining a social licence to operate. This means listening to stakeholders, keeping promises, being transparent, managing our environmental and social impacts and creating value for the benefit of communities, employees and shareholders.

This year Sandfire America progressed towards permitting the Black Butte Copper project in Montana, USA. Key milestones included release of the Draft Environmental Impact Statement by the Montana Department of Environmental Quality (DEQ) and conclusion of the 60-day public comment period. Our commitment to stakeholder engagement in the USA is highlighted by the establishment of the Meagher County Stewardship Council. The Council brings together local voices to direct our attention to the issues that matter most to the community.

We also announced the proposed acquisition of MOD Resources Ltd, a transaction which would add a third emerging production hub for Sandfire in the EMEA (Europe, Middle East, Africa) based around the advanced T3 Copper Project in Botswana.

Key focus areas for us include protecting the safety of our people and assets. We are pleased to report our total recordable injury rate fell from 7.1 in 2018 to 6.2 this year, a 12 per cent reduction.

Our environmental performance is also an important part of our strategy. Technical enhancements during the year helped to optimise our solar facility at the



DeGrussa operation, improving the uptake of solar and saving 14,727 tonnes of carbon dioxide – a 13.6 per cent improvement over the previous year.

We are vigilant regarding disposal of mine tailings. Sandfire's tailings design and management are fit for purpose, built and maintained to the highest standards. The DeGrussa tailings facility is a double lined, fully encapsulated Integrated Waste Landform with downstream design to minimise risk of failure. At the Black Butte Copper project we plan to build a Cemented Tailings Facility (CTF). This design is considered one of the safest and most comprehensive approaches to tailings management industry wide.

The other major area of stakeholder interest where we have taken action is in our supply chain. In January 2019, Australia's Modern Slavery Act came into effect. We have released a voluntary statement, in conjunction with this report, which can be viewed on our website. Combating modern slavery will take a concerted and collaborative industry approach and we aim to work with our suppliers, contractors and business partners in playing our part to address this global issue.

Sincere thanks to the Sustainability Committee and supporting business teams for continually raising the bar of environmental and social performance, enabling our business to deliver sustained value.

**Derek La Ferla**

Chair – Board of Directors

**Karl Simich**

Managing Director and CEO

<sup>1</sup> Net profit refers to the net profit attributable to the equity holders of the parent entity, Sandfire Resources NL  
<sup>2</sup> WGEA Data Explorer, Mining Summary for 2018; <https://data.wgea.gov.au/industries/87>



# Our business



## Business overview

Sandfire Resources NL is a mid-tier Australian mining and exploration company headquartered in Perth, Western Australia and listed on the Australian Securities Exchange (ASX:SFR). We produce copper and gold from our 100 per cent owned DeGrussa and Monty Copper-Gold Mines, located 900 kilometres north of Perth.

In FY2019, we commenced first ore production at Monty Copper-Gold Mine, located 10 kilometres east of DeGrussa. Combined production for FY2019 was 69,394 tonnes of copper and 44,455 ounces of gold. Production for FY2020 is guided to be 70,000-75,000 tonnes of copper and 38,000-42,000 ounces of gold.

Our exploration activities cover the Bryah Basin in Western Australia, Mt Isa Inlier in Queensland, Lachlan Fold Belt of NSW and McArthur River Basin in the Northern Territory.

We have a pipeline of exploration and development projects in the world's major continental zones: Europe, Middle East and Africa (EMEA), Asia-Pacific (APAC), and the Americas.



Operating mines	Development Pipeline	Exploration Porfolio
<ul style="list-style-type: none"> <li>DeGrussa Operations, Western Australia</li> <li>DeGrussa Copper-Gold Mine</li> <li>Monty Copper-Gold Mine</li> </ul>	<ul style="list-style-type: none"> <li>Black Butte Copper (85%) Montana, USA</li> <li>MOD Resources Ltd Projects, Botswana*</li> <li>T3 Copper Project</li> <li>T1, A4 Expansion Projects</li> </ul>	<ul style="list-style-type: none"> <li>Greater Doolgunna Project, Western Australia</li> <li>Queensland and New South Wales Base Metals Projects, Australia</li> <li>Red Mountain Project (JV with White Rock Minerals Ltd), Alaska, USA</li> <li>Kalahari Copper Belt, Botswana (MOD Resources Ltd 11,700km² land holding)*</li> </ul>

**Figure 1**  
Location of Sandfire operations

\*The agreement to acquire MOD Resources Ltd is subject to successful implementation of a Scheme of Arrangement under which Sandfire will acquire 100 per cent of the issued and to be issued share capital of MOD Resources Ltd, as outlined in the Company's ASX announcement dated 25 June 2019.



# Our business model

We are in the business of producing base and precious metals safely and profitably from our operations for the benefit of our shareholders and stakeholders.

We work collaboratively with our stakeholders to maximise production while responsibly managing our impacts and controlling costs.

Our business focus includes:

SAFELY MANAGING OUR OPERATIONS	by optimising production and rigorously controlling expenditure
INVESTING IN EXPLORATION	to increase our resource base by discovering new deposits
SECURING ASSETS	that meet our investment criteria through business development initiatives and developing assets in accordance with a set of strict economic and technical criteria

# Our values

Our values are essential to our success. They tell a story about what is important to our business and are used to guide our day-to-day dealings with each other and with our stakeholders.



Figure 2  
Our corporate values



# How we create value

We are in the business of creating value. The value we create is the product of a chain that involves many stakeholders. Our success is driven by a range of inputs including the orebody capability, people, access to finance, quality of equipment supplied and environmental resources such as water and energy. By applying the expertise of our workforce, we leverage these inputs to create raw materials that yield great benefits to society.

Copper concentrate produced at DeGrussa is sold to international trading companies and smelters, predominantly based in Asia. Through smelting and refining, copper is extracted from the concentrate for use in electrical products, advanced medical technologies, machinery,

construction and transport. Its conductive properties make it an integral component of renewable energy systems, and electric vehicles.

As well as the value embodied in our product, we create value for our employees, suppliers, governments, shareholders, native title groups and local community members in the form of wages, revenue, taxes, dividends, royalties and community investment.

The International Integrated Reporting Council (IIRC) defines six different types of capital that form the basis of an organisation’s value creation. All organisations enhance, deplete or transform capitals through business activities.<sup>3</sup>

Our success is driven by a range of inputs including the orebody capability, people, access to finance, quality of equipment supplied and environmental resources such as water and energy.

<sup>3</sup> <https://integratedreporting.org/wp-content/uploads/2013/03/IR-Background-Paper-Capitals.pdf>



### Sandfire value chain

The below diagram represents how Sandfire draws on the different stores of capital as part of a value chain driving benefits to society.

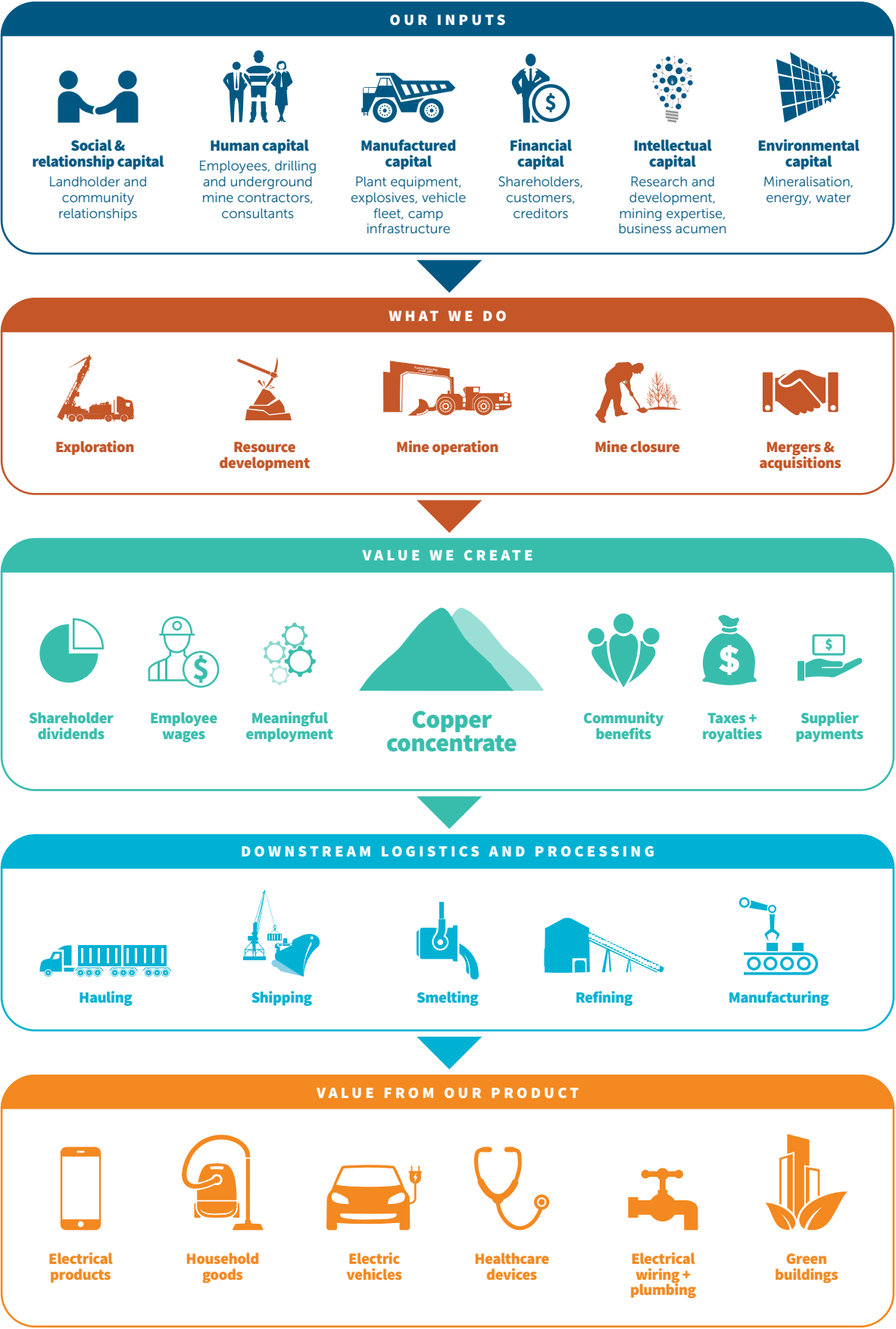


Figure 3 Our value chain

### Our supply chain

Contractors and suppliers are critical to our business. We rely on them for a range of services including underground mining, camp management, and hauling copper concentrate to port. As we work to address the requirements of the Modern Slavery Act (see page 25), we are interrogating our supply chain to better understand the location and industries of our indirect (tier two and beyond) suppliers. These are the suppliers of our suppliers.

In total, our FY2019 expenditure with suppliers was \$350m, with the vast majority of that expenditure in Australia. See page 30 for a breakdown of our procurement spend by region.

Our supply chain includes the following products and services:

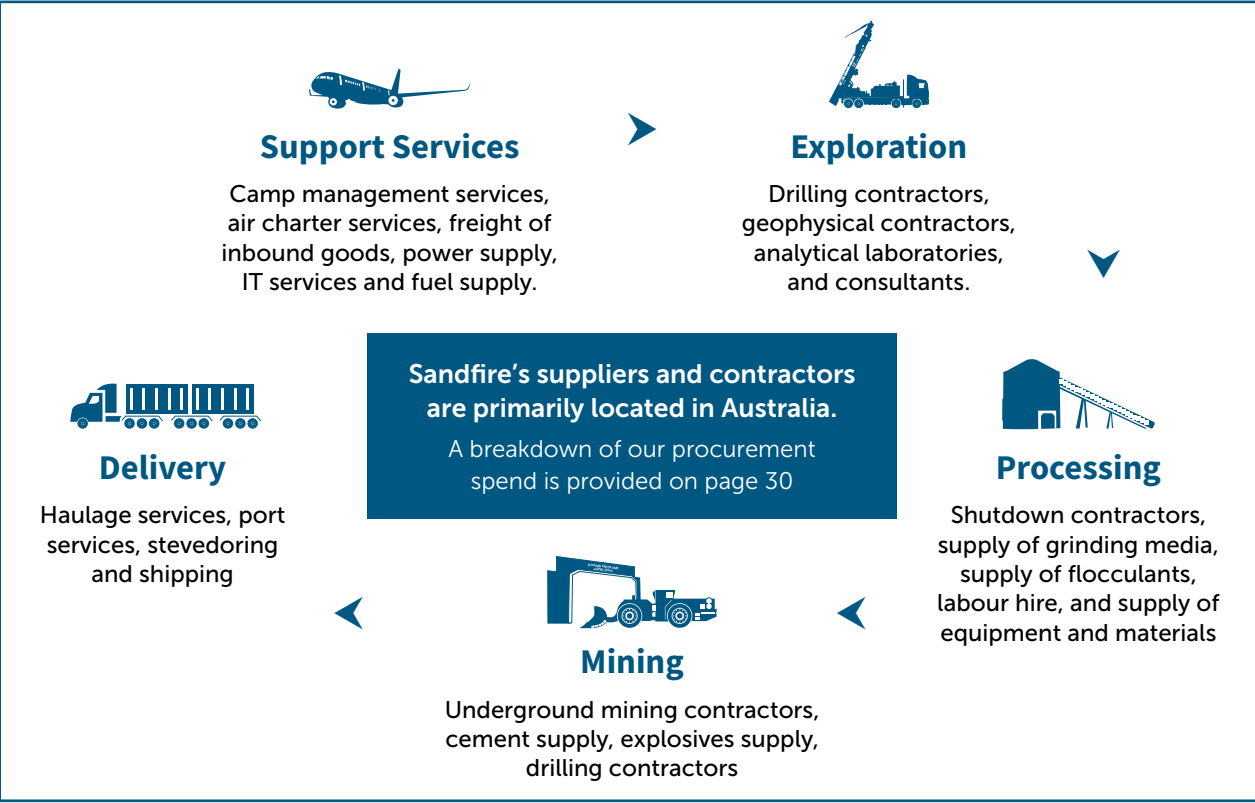


Figure 4 Our supply chain

### External memberships

Sandfire is an active member of the Association of Mining and Exploration Companies (AMEC) and has representatives on the Environment and Water Committee, the Safety Committee and the Aboriginal Affairs Committee.

Our Managing Director and Chief Executive Officer, Karl Simich, is a member of the Board of the International Copper Association Australia (ICAA), the peak body for the copper industry in Australia. The ICAA represents some of the country's most influential companies in mining, manufacturing, production, and recycling.

The Chair of our Board, Derek La Ferla is a fellow of the Australian Institute of Company Directors (AICD) and member of the AICD National Board.





# Our sustainability priorities



## Our sustainability strategy

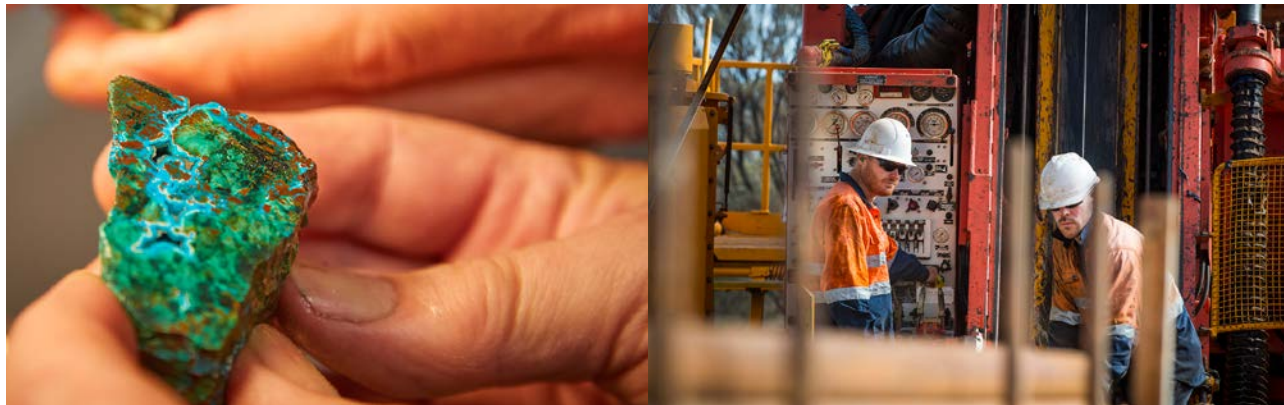
In 2017 we developed a sustainability strategy to guide Sandfire through the period 2017-2021 and affirm our position on responsible business.

The goal for our sustainability initiatives is to achieve high standards in safety, environmental management, productivity, governance and transparency while delivering positive outcomes for society.

By integrating our strategic goals and targets within day-to-day business, we have gained greater clarity and purpose, uncovering opportunities for improvement and understanding how sustainability contributes to our success. In the past year, we achieved many of the goals and targets of our strategy, and progressed others within the anticipated timeframes.







## Focus areas

### Respect and accountability

We will engage respectfully with our stakeholders, behave ethically and with integrity at all times in our work and meet stakeholder expectations for accountability and transparency.

This focus area includes our commitments to respect and engage with our stakeholders, to good governance, risk identification and management, transparency and communication, anti-corruption and our contribution to governments and public debate.

#### Our goals are to:

- maintain our social licence to operate
- ensure our code of conduct is well understood and followed by all who work with us
- effectively identify and manage risk including climate change risk
- communicate with all stakeholders in an open and transparent manner
- listen and be responsive to our stakeholders
- be transparent in our contributions to governments by reporting on taxes and royalties paid and being open about our engagement with public policy
- ensure we have strong governance systems to avoid corruption in the first instance, but also to identify and remedy if necessary.



### Supporting economic development

We acknowledge that our success supports the economic empowerment of individuals and communities. We aim to maximise the benefits and minimise any negative impacts of our economic influence.

This focus area includes how Sandfire facilitates regional economic development through local procurement and employment. It also encompasses how we respect and engage with local communities where we operate, aspects of mine closure planning, and our social and community investment.

#### Our goals are to:

- ensure communities in the region of our operations have opportunities to benefit economically from our activities
- develop a local workforce capacity where possible
- preference local workers for jobs at all Sandfire operations where skills are available
- support Indigenous employment at our operations
- engage local communities to understand their community priorities
- address community needs for support
- direct local community support to sustainable programs that can endure post operations
- provide avenues for local business to supply to Sandfire.



### Building a safe and supportive workforce

We place the highest emphasis on providing a safe and inclusive workplace. We aim to enable all employees to develop the skills they need to reach their potential in our organisation.

Safety is fundamental to our business. Topics covered under this focus area include occupational health and safety and employee wellbeing, anti-discrimination and commitment to diversity. Also covered are inclusion, training and development and ethical workplace practices.

#### Our goals are to:

- ensure our people always go home safely to their loved ones
- continuously improve our safety performance
- inspire our employees to give their best each day and have a sense of wellbeing and belonging
- invest in the growth and development of our people
- be an employer of choice
- prevent any form of discrimination at work
- have a diverse and inclusive workplace
- maintain ethical workplace practices.



### Operating responsibly

We will undertake our work in a manner that respects and supports people and the environment by minimising negative impacts and supporting positive outcomes.

This area encompasses compliance and management systems relating to water, waste, carbon emissions management and biodiversity protection. It includes responsible behaviour in all activities from exploration and project development through to mine closure. It also encourages us to focus our attention to those areas outside our direct control such as an ethical supply chain and understanding the impacts of transport, processing and smelting.

#### Our goals are to:

- manage performance at or above compliance with applicable laws and regulations
- responsibly manage water
- manage mineral and non-mineral waste to minimise negative impacts
- engage local communities in mine closure planning
- ensure responsible stewardship of land used for operations and exploration, with closure and rehabilitation objectives in place
- identify and measure our carbon footprint and emissions efficiency.





How we govern sustainability

The Sandfire Board of Directors (Board) has ultimate responsibility for the company’s sustainability strategy, performance and management of sustainability risks and opportunities. To assist the Board in its duties, Sandfire has a dedicated Sustainability Committee comprising three non-executive Board Directors. Supported by the managers of sustainability related functions, the Sustainability Committee oversees policies, management systems, performance, reporting and compliance related to health, safety, environment, community, and diversity and inclusion.

In addition and reporting into management, the business has a Sustainability Management Committee which monitors progress against the sustainability strategy on a quarterly basis. This committee acts as a forum for information sharing with specific focus on activities related to stakeholder engagement and integration of sustainability across the business. Further detail about Sandfire’s corporate governance framework can be found in our annual Corporate Governance Statement available at [www.sandfire.com.au/site/About/governance](http://www.sandfire.com.au/site/About/governance).

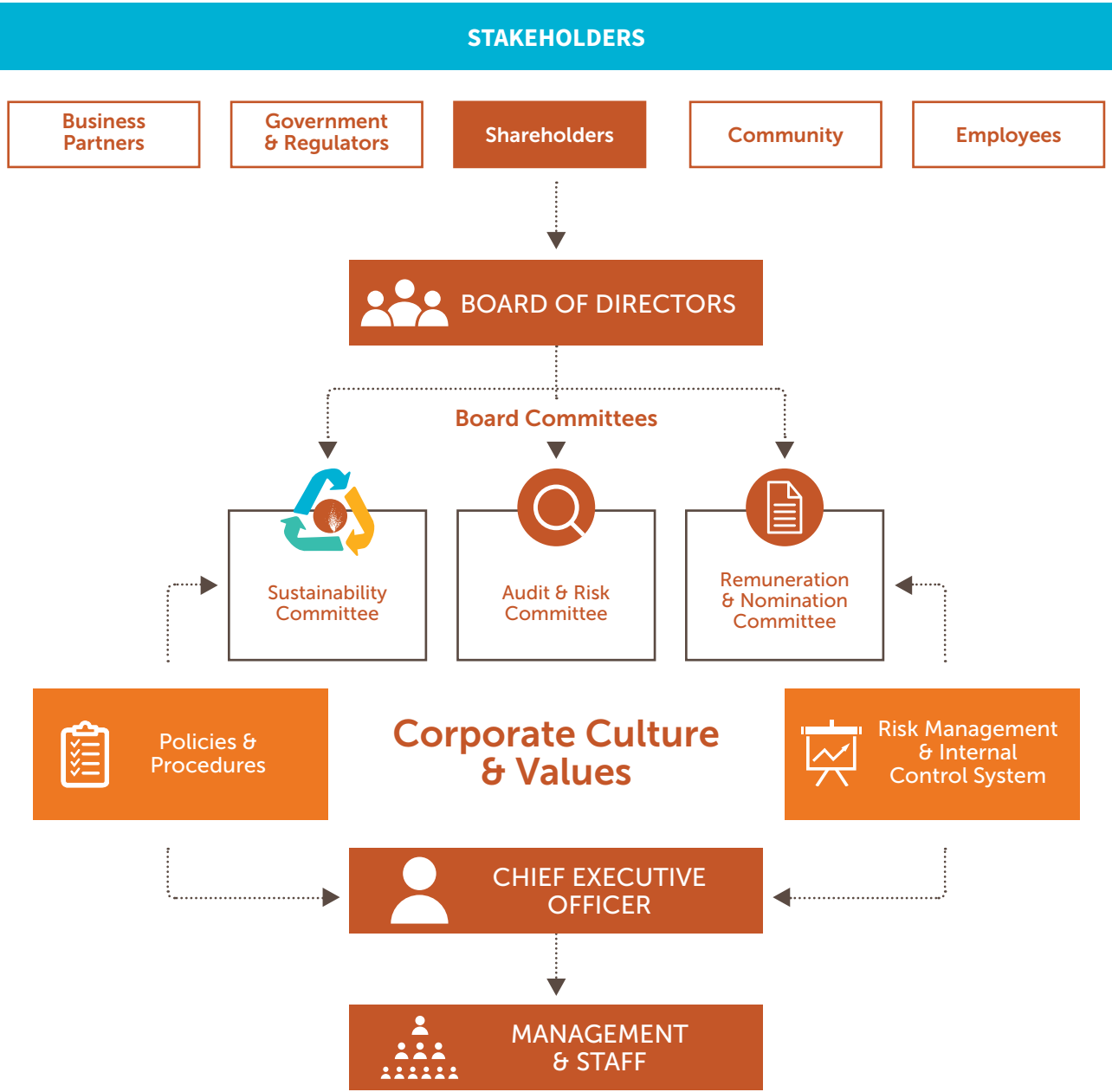


Figure 5  
Our sustainability governance structure

FY2019 Scorecard - Progress against our targets

We set public sustainability targets in line with our strategic focus areas to drive improved business performance and meet the expectations of our stakeholders. Our targets align with the company’s most material issues and support the delivery of our sustainability strategy.

Each year, we review our targets in light of previous performance to ensure they remain appropriate for the business. As part of this process, we consider strategic priorities, operational forecasts, community expectations, sustainability trends and resource availability.

Targets that have been met over successive years have been integrated into our business as usual expectations. Progress against our targets is reviewed periodically throughout the year and updates provided to the Group Management Team (GMT). Our performance against the targets and plans to achieve them are discussed throughout this report.

Focus area	Topic	Target description	Target Date	FY2019 progress
Operating responsibly	Water	Develop a water strategy aimed at improving efficiency	FY2020	This target was not progressed in FY2019 due to foundation work undertaken to improve water monitoring
	Mine closure	Successfully and responsibly close operations with no liabilities or legacy issues	Closure	We formed a Mine Closure Management Committee and commenced work on our mine closure strategy
	Energy efficiency	Reduce emissions intensity at the DeGrussa operation by 8 per cent using 2019 as a baseline	FY2022	Emissions intensity was 1.28 tonnes CO <sub>2</sub> -e per tonne copper produced (2 per cent reduction on FY2018) <sup>4</sup>
Supporting economic development	Facilitate regional economic development	Procurement spend in regional areas >10 per cent of total procurement spend	FY2020	Regional procurement spend was 8 per cent of total expenditure (5 percentage points below FY2018)
	Social and community investment	Donate \$500k per annum, both direct and in kind to projects which will have long term benefits in the communities where we operate	Ongoing	Sandfire contributed >\$850k through direct and in-kind donations
Building a safe and supportive workplace	Occupational health and safety	No fatalities or serious incidents <sup>5</sup>	Ongoing	No fatalities or serious incidents (no change on FY2018)
		Total Recordable Injury Frequency Rate (TRIFR) of 4.5	FY2020	TRFIR was 6.2, (12 per cent decrease from FY2018)
	Employee engagement and wellbeing	80 per cent employee engagement score	FY2021	Employee engagement score was 70 per cent (4 per cent increase on FY2017)
	Diversity and inclusion	Maintain and where possible, improve female representation at a level at least 20 per cent above the mining industry average	FY2020	Female participation was 23 per cent (6.3 percentage points above industry average)
		Aboriginal people's participation in the workforce to be > 7 per cent	FY2020	Aboriginal workforce participation was 6.3 per cent (1.1 percentage points below FY2018)
Respect and accountability	Our values	95 per cent of employees to live Sandfire values at work	FY2020	98 per cent of employees lived Sandfire's values at work, as judged through employee performance reviews

Figure 6 Our sustainability targets

<sup>4</sup> Emissions intensity was redefined as tonnes of CO<sub>2</sub>-e per tonnes of copper produced to align with our ultimate operational target. Copper refers to copper concentrate. Intensity was previously measured as kg CO<sub>2</sub>-e per tonne of ore milled. The reduction of two per cent in FY2019 will not be counted towards the target of eight per cent as the new target was agreed at the close of FY2019.

<sup>5</sup> Serious incident defined as actual risk rating of >18 as defined by Sandfire’s incident management standard





## Our material issues

Material issues are the significant economic, social and environmental impacts our business had in the past 12 months and will have in the foreseeable future, and the topics that most influence our stakeholders' perceptions of our performance. These topics form the basis of this report.

Our material issues were informed through stakeholder engagement, industry analysis and feedback from ESG analysts. We engaged an external consultant to conduct interviews with stakeholders connected with the DeGrussa operation and Black Butte Copper project in Montana, USA.

The resulting list of issues were validated and prioritised by Sandfire's GMT giving due consideration to the significance of the impacts both within and outside our business and the importance of the issues to our stakeholders.

To define the scope of reporting, we considered how the impacts were linked to us and the stakeholders affected by the impacts. Where appropriate, we place our performance in the context of broader sustainability trends.

### Our FY2019 material issues

Consistent with prior years, stakeholders remained focused on how Sandfire provides opportunities for local communities, manages environmental impacts and keeps its workforce healthy and safe.

Issues gaining deeper attention included mental health, management of human rights risks in the supply chain and tailings management.

All material issues are addressed in this report, with more detail provided for those considered to have more significant impacts. The report also presents information related to some material topics from previous years for consistency.

The following table presents Sandfire's FY2019 material issues and the location in the report where we discuss the topic.















	MATERIAL TOPIC	WHERE THE IMPACT OCCURS	Supply chain	Site support services	Exploration	Mining	Haulage & export	Local & regional communities	REPORT CHAPTER
	Water management	Water bodies above and below the surface at our current operations and future developments		✓		✓			Operating responsibly
	Waste management	Current operations and future developments, particularly at our tailings dam and site landfill		✓		✓			Operating responsibly
	Energy & emissions	Current operations and future developments		✓	✓	✓			Operating responsibly
	Land disturbance & rehabilitation	Current operations and future developments, particularly at our exploration sites in regional WA and NSW				✓			Operating responsibly
	Economic development	Local communities, suppliers, employees and downstream users of copper in WA, Australia and globally	✓	✓	✓	✓	✓	✓	Supporting economic development
	Providing opportunities for local communities	Local communities, particularly Meekatharra in Western Australia and people who may pursue careers in mining	✓					✓	Supporting economic development
	Mine closure and opening	Local communities, particularly Meekatharra in Western Australia and White Sulphur Springs in Montana, USA, employees and contractors	✓	✓	✓	✓	✓	✓	Supporting economic development
	Aboriginal engagement	In local communities and all places of work	✓	✓	✓	✓	✓	✓	Building a safe and supportive workplace
	Safety & mental health	Employees and contractors at our current operations and future developments	✓	✓	✓	✓	✓		Building a safe and supportive workplace
	Diversity & inclusion	Employees and contractors at our current operations and future developments	✓	✓	✓	✓			Building a safe and supportive workplace
	Ethics & culture	Employees and contractors at our current operations and future developments	✓	✓	✓	✓			Respect and accountability
	Climate change risk management	At our current operations and future developments				✓			Respect and accountability
	Stakeholder engagement and transparency	All stakeholders, particularly local communities	✓	✓	✓	✓	✓	✓	Respect and accountability
	Human rights in the supply chain	In our supply chain. Activities underway to gather more information	✓						Respect and accountability

Table 1 Our FY2019 material issues

1 Our business

2 Our sustainability priorities

3 Respect and accountability

4 Supporting economic development

5 Building a safe and supportive workplace

6 Operating responsibly

7 Sandfire America



# Respect and accountability



## Our aim

Our aim is to engage respectfully with our stakeholders, behave ethically and with integrity at all times and meet stakeholder expectations for accountability and transparency. We value our stakeholder relationships and our approach is focused on open dialogue and trust.

### Performance Summary



**Remained compliant**  
with our licences & regulatory obligations



**Continued disclosure**  
of our sustainability performance



Undertook **climate change & human rights risk assessments** for our DeGrussa operations



**No significant risks identified**

## Ethics and culture

Company culture shapes the behaviours and standards that generate or limit success . Our culture affects not only our workforce but external stakeholders too.

Our culture is not defined by our policies and written procedures, but rather by the standard of behaviour we expect, the interactions our employees have with each other and with our stakeholders, and the leadership from our senior leaders.

One of the ways we measure our culture is through assessing whether employees have adopted Sandfire’s values throughout the year. This is assessed during end of year performance reviews. In FY2019, 98 per cent of employees were assessed to have lived Sandfire’s values at work.

Other measures that indicate the quality of our culture include regulatory compliance, the number and nature of stakeholder grievances, employee engagement levels and compliance with the code of conduct.

### Our code of conduct

Our Code of Conduct articulates our values and sets the standards of behaviour that are expected from our workforce. We review our Code every two years (last review in October 2018), or when there is a material change to the business to ensure it remains relevant to the business and regulatory environments in which we operate. It is a requirement that all people who perform work for us understand and abide by our Code. A copy of the Code is provided to all new employees and suppliers with formal contracts, and is available on the Company website.<sup>6</sup>

During the year, we developed an online Code of Conduct training course. Employees are required to complete the online Code of Conduct training every two years.



<sup>6</sup> <https://www.sandfire.com.au/site/About/governance>.





### Value workshops

During September and October 2018 we held values workshops for employees across all business units. The purpose of the workshops was to engage employees with Sandfire's key values and philosophy. The workshops presented an opportunity to further embed the Company's values and question how our values form part of everyday decisions and behaviours, while emphasising the importance of values alignment.



### Preparing for new whistleblower laws

Since the conclusion of the reporting period, new whistleblower laws have come into effect in Australia to standardise protections across sectors and encourage whistleblowers to more readily disclose information relating to actual or suspected misconduct. The new laws enhance anonymity for whistleblowers and provide remedies including compensation should the whistleblower experience any disadvantage as a result of their identity being revealed.

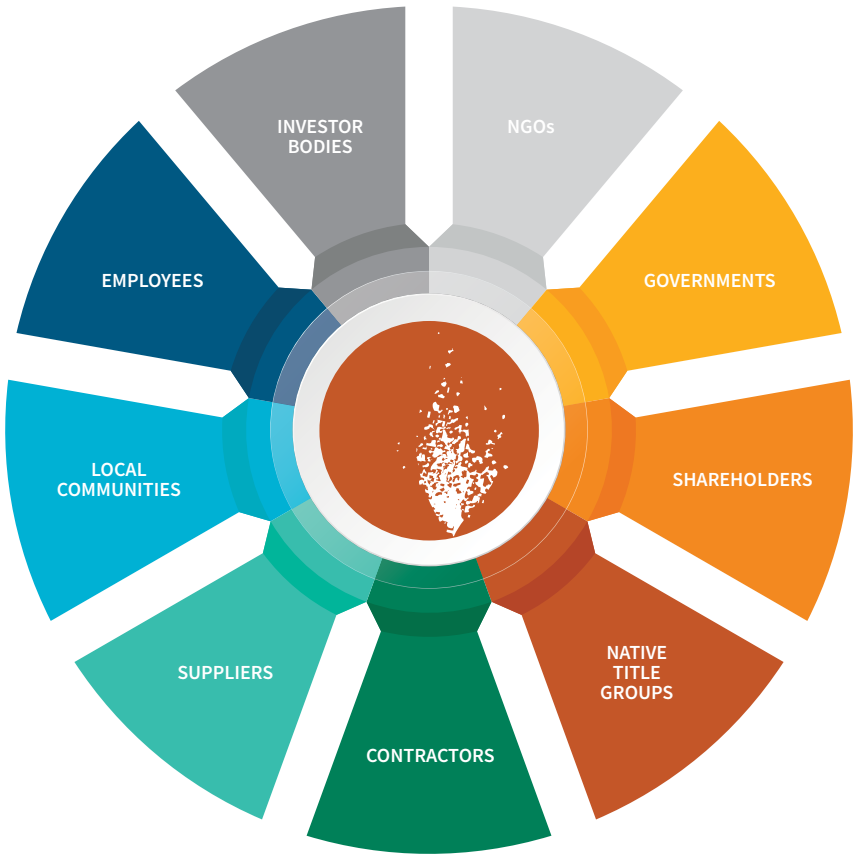
In light of the new laws, we are reviewing our Whistleblower Policy and process to ensure we are aligned with the new requirements. As part of this review, we will deliver training to ensure our leaders are equipped to manage whistleblower cases in line with the new standards.

At present, reports can be made directly to the Company or anonymously through a whistleblower helpline. The helpline can be accessed 24 hours a day, seven days a week, and is operated by an independent third party. It is available to all employees and contractors. During FY2019 no whistleblower reports were received.

### Stakeholder engagement and transparency

Open, honest and regular stakeholder engagement is a central tenet of our business and core to maintaining our social licence to operate.

Our stakeholders are those people or organisations who are directly or indirectly affected by, or have an interest in, our business. We prioritise stakeholders based on their ability to impact our business and our ability to impact their lives or activities.



**Figure 7**  
Our stakeholder groups

Throughout the year, we engage with stakeholder groups through various avenues. These are presented on the Company website: <https://www.sandfire.com.au/site/sustainability/community>







Some of the ways we engaged with stakeholders in FY2019 included:

- staff visits and volunteering in Meekatharra and Yulga Jinna, Western Australia
- investor roadshows, briefings and forums in capital cities and regional towns
- road safety awareness roadshows in Yalgoo and Cue, Western Australia
- heritage surveys on exploration sites
- distribution of environmental newsletters to near neighbours
- participation in industry events
- stakeholder interviews to inform our materiality assessment

We aim to build strong, mutually beneficial relationships with our stakeholders and are in the process of refining stakeholder engagement plans for each Business Unit to support this goal. The plans identify key stakeholders, the impact we have on them, known topics of interest, how we should engage with them and the objectives of engagement.



Our Business Units report progress on their stakeholder engagement activities to Sandfire's Sustainability Management Committee. The Committee is responsible for ensuring that we manage relationships in a consistent and accountable way. This approach is overseen by the Sustainability Committee.

In FY2019 we embedded stakeholder engagement software into our business that will assist us to track stakeholder interactions, measure stakeholder sentiment and assess the effectiveness of our stakeholder engagement approach. We also plan to undertake in-depth stakeholder research in FY2020 to identify any new socio-political issues and measure relationship quality.

In our FY2018 Sustainability Report, we discussed our commitment to transparency.<sup>7</sup> Transparency is one of the most important underpinnings of a social licence, and we aim to share our successes and failures with stakeholders in a timely manner. This is mainly achieved through quarterly investor reports, annual and sustainability reports.



## Respecting human rights

Sandfire's commitment to respecting human rights means that we abide by applicable laws and regulations and aim to address human rights risk where we operate. Our approach is benchmarked against the UN Guiding Principles for Business and Human Rights and adapted to meet the expectations of our stakeholders and priorities of the business.

The mining industry in Australia is not considered high risk for human rights violations<sup>8</sup>, however we take our responsibility seriously. The human rights most relevant for our operations are related to workplace safety, labour conditions, and the rights of native title groups and communities where we have an impact.

Our commitment to upholding human rights is reflected in a suite of policies that includes our Code of Conduct, Our People Policy, Sustainability Policy and Equal Employment Opportunity (EEO), Anti-Discrimination, Harassment and Bullying Policy Statement, all accessible on our Company website.<sup>9</sup>

All employees are required to undertake compulsory EEO, bullying and harassment training every two years and our induction process covers the Code of Conduct, related policies and grievance mechanisms. We evaluate the effectiveness of our human rights management approach by assessing controls in place to prevent misconduct. We will undertake work in FY2020 to more effectively investigate human rights risk in our supply chain.

As our company looks to expand into new jurisdictions, we expect to face different human rights risks and regulatory frameworks. We are committed to implementing appropriate management practices to effectively manage these risks.



## Australian Modern Slavery Act

In January this year, the Commonwealth *Modern Slavery Act 2018* came into effect in Australia. The Act calls for businesses to disclose the actions taken to assess and address the risk of modern slavery in their operations and supply chains.

In FY2019, our actions to address these requirements included:

- conducting an operations human rights risk assessment
- conducting a high level supply chain risk assessment of 91 tier one suppliers
- forming a Modern Slavery Act Working Group
- benchmarking current policies and procedures against the UN Guiding Principles for Business and Human Rights
- updating our Code of Conduct
- developing a two-year Action Plan

**We are proud to release a voluntary statement, guided by the legislation, in conjunction with this report.**

The statement can be accessed through our website at [https://www.sandfire.com.au/site/PDF/2532\\_0/modernslaverystatement](https://www.sandfire.com.au/site/PDF/2532_0/modernslaverystatement).

During the year, we undertook a human rights risk assessment of our operations. Through this process, we assessed risks such as forced labour, child labour and unsafe working conditions, and the controls in place to mitigate those risks. We found that the controls in place sufficiently minimise the risk of human rights incidents but identified an opportunity to more effectively communicate the Whistleblower Policy and mechanisms that ensure anonymity. This will take place in FY2020.

We also plan to undertake a more thorough risk assessment of our supply chain with the goal of identifying those areas that have a higher risk profile. We will provide specific training to contract managers to equip them with the knowledge and skills to appropriately engage with higher risk suppliers. We are working on our supplier tendering and on boarding processes to enable us to flag high risk suppliers early and establish appropriate remediation mechanisms where risks are identified.



Climate change risk management

We view climate change as an important issue for societies, economies and environments across the globe. Long term risks facing the mining industry can be broadly categorised as physical risks, such as the impact of extreme weather events on assets or production, and regulatory risks such as changes to legislation. These risks can impact Sandfire directly through our operations or indirectly through our supply chain.

Climate change governance

We integrate climate change risk management into our overall risk management system. Management implements Sandfire’s risk identification, management and internal control system, and reports to the Board on Sandfire’s key risks, and the extent to which it believes risks are being adequately managed. The Board of Directors Audit and Risk Committee undertakes an annual assessment of the effectiveness of risk management and internal controls.

In addition stakeholder engagement helps to identify and assess the impact and likelihood of climate risks for our business. Processes such as materiality interviews with stakeholders and engagement with industry groups, analysts, investor groups and regulators are part of this approach.

Sandfire publicly reports on its climate change risks, energy and emissions performance through a number of mechanisms including the Sustainability Report, National Pollutant Inventory and National Greenhouse and Energy Reporting framework. Previously we participated in the Carbon Disclosure Project (CDP), however in 2019 we decided the information could be delivered in a more timely and centralised manner through the Sustainability Report.



During FY2019, we conducted a climate change risk assessment for our operations using the Taskforce on Climate Related Financial Disclosures framework risk areas. Our assessment concluded that due to the relatively short mine life of DeGrussa, which is currently expected to close in mid-2022, and given proposed projects in the USA and Botswana have yet to receive approval, Sandfire is not currently exposed to significant climate risks.

Our climate risks have not changed materially since FY2018. However, new requirements on ships to use low sulphur fuel may result in higher shipping costs which may be passed on to mining companies. This requirement was introduced by the International Maritime Organisation to reduce sulphur oxide emissions and is due to come into effect on 1 January 2020. The financial impacts of various risks will be examined in future assessments where risks are deemed material.

We continue to monitor the regulatory landscape and began work to develop an emissions forecast model that can be applied to new projects. The model will allow Sandfire to predict the total carbon footprint of a project and determine what the financial impact would be where a carbon price applies.



Risk/ opportunity	Description	Classification	Impact	Mitigation
Regulatory changes in Australia	Facilities emitting over 100,000 tonnes of CO <sub>2</sub> -e per annum are given a baseline CO <sub>2</sub> -e limit under the Australian Government's Safeguard Mechanism. <sup>10</sup> If facilities exceed this baseline they are required to offset their excess emissions.	Regulatory	Sandfire is not currently affected by the Safeguard Mechanism as our FY2019 emissions were 89,053tonnes of CO <sub>2</sub> -e.	Sandfire will continue to monitor any proposed changes to the Safeguard Mechanism.
Increased emissions at DeGrussa	As Monty develops and in the event of a new discovery in Doolgunna, Sandfire's total emissions profile may cross the Safeguard Mechanism threshold.	Operational	Sandfire's current life of mine emissions model indicates that we will not cross the Safeguard Mechanism threshold.	As part of Sandfire's emissions efficiency target, we look for opportunities to reduce energy use across the business. We continue to update our emissions forecast model as new data becomes available.
Physical risks	Increased incidence and severity of extreme weather events.	Physical	Prolonged heatwaves and flooding events have the potential to disrupt mining operations and impact the health and safety of our workforce.	Sandfire has emergency response procedures that account for extreme weather events.
Regulatory changes outside of Australia	Jurisdictions outside Australia where Sandfire has potential business opportunities could enforce carbon prices or other carbon related policies.	Regulatory	Depending on the nature of regulatory change, this could have financial or operational impacts on future projects.	Sandfire assesses the regulatory environment for all new projects.
Increased expectation and scrutiny from stakeholder and investors	Stakeholders and investors expect companies to manage climate risks and explore ways to improve energy efficiency. Companies that do not take action on climate change risk reputational damage.	Reputational	Sandfire may suffer reputational damage if stakeholder expectations are not met.	Sandfire will continue to engage with stakeholders to understand their expectations and communicate efforts to improve energy efficiency, disclose emissions data and manage climate change risks.
New shipping legislation	From 1 January 2020, ships will be required to use fuel with lower quantities of sulphur to reduce the impacts of sulphur oxide emissions.	Financial	Costs associated with the transition may be passed onto customers.	Sandfire will engage with shipping suppliers to understand the expected impacts on costs. The currently anticipated shipping price increase is not expected to materially affect Sandfire's profitability.

Table 2 Climate change risks and opportunities

<sup>10</sup> The Safeguard Mechanism is a federal government scheme covering facilities emitting over 100,000 tonnes of CO<sub>2</sub>-e per year. <http://www.cleanenergyregulator.gov.au/NGER/The-safeguard-mechanism>

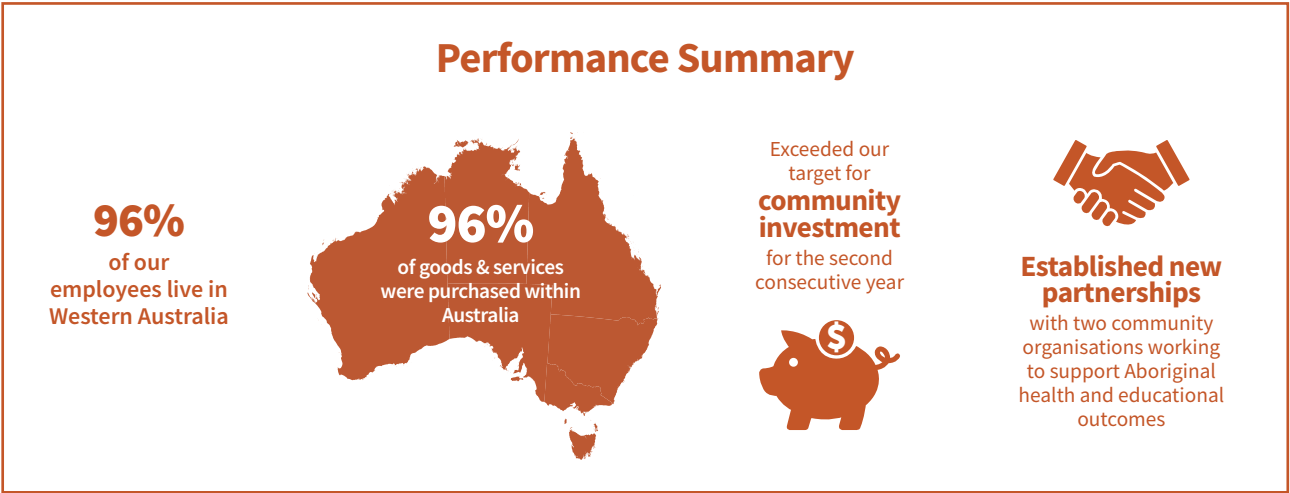


# Supporting economic development



## Our aim

Our success supports the economic development of communities, and we aim to maximise the benefits and minimise any negative impacts of our economic influence. Our vision is to create sustainable, enduring value for our communities that continues after our activities cease.



## Our economic contribution

We impact the local and regional economies around our operations and aim to create value that will endure while avoiding creating a legacy of dependence.

We contribute to economic development through a variety of methods. These include the payment of taxes and royalties to government and native title groups, local procurement, employment and investing in programs and projects that benefit local communities. By engaging with our stakeholders we are able to assess and modify our approach to supporting regional economic development.

In FY2020 our direct economic contribution consisted of:

Tax payments to State and Federal Government	Royalties paid to native title groups of the land where we operate	Royalties paid to Western Australia State Government
<b>\$84.4M</b>	<b>\$3.4M</b>	<b>\$30.2M</b>
Community investments and partnerships, including in-kind donations	Employee related expenses including salaries paid to employees	Expenditure with contractors and suppliers
<b>\$859K</b>	<b>\$41.7M</b>	<b>\$350M</b>



Providing opportunities for local communities

Our stakeholders shared with us that providing opportunities for the local community was one of the most important impacts we can have. Our closest community, Meekatharra (150 kilometres from DeGrussa) and other towns in the Murchison region<sup>11</sup> experience many of the disadvantages associated with remote living. These include fewer employment opportunities and poorer access to education, healthcare, transport and infrastructure. We continued to make a positive impact in the region through engaging local suppliers, providing employment opportunities and supporting long term community programs focused on social and economic benefits.

Local procurement

We procure from local<sup>12</sup> suppliers where they are able to meet our supplier standards for quality, safety, social responsibility, environment and commercial viability. Our regional spend fluctuates due to changes in our business needs, supplier availability and overall expenditure. We fell short of our 10 per cent target this year, with eight percent of expenditure with suppliers in regional areas. After achieving 13 per cent regional expenditure in FY2018, this decrease was mainly caused by the completion of development works at Monty Copper-Gold Mine by a local supplier and is more reflective of previous years.

It can be challenging to source certain products and services outside capital cities. In FY2020, we will develop and implement a policy to formalise our local procurement commitment and put in place stronger mechanisms to support progress towards our 10 per cent target.

As part of this process, we will review opportunities to help suppliers meet our key selection criteria, work with local governments and industry associations to identify local suppliers and explore avenues to advertise tenders locally.



<sup>11</sup> <https://www.murchison.wa.gov.au/>  
<sup>12</sup> Local is defined as the Midwest Economic region. The Midwest Economic region of Western Australia spans 478,000 square kilometres from Green Head to Kalbarri and more than 800km inland to Wiluna in the Gibson Desert <http://www.drd.wa.gov.au/regions/Pages/Mid-West.aspx>  
<sup>13</sup> Regions are defined by their postcode. Please note:  
(i) Expenditure with contractors and suppliers is calculated on an accruals basis.  
(ii) Postcodes of contractors and suppliers are based on head office location. Where suppliers have multiple sites, this may not accurately reflect the region where economic benefits are realised.  
(iii) Expenditure within WA, regional areas and the Midwest region was previously calculated as a percentage of spend in Australia. All denominations of expenditure are now calculated as a percentage of total expenditure.  
(iv) The terms 'expenditure' and 'spend' are used interchangeably.

Of our total expenditure with contractors and suppliers in FY2019:

- 96 per cent of expenditure was in Australia
- 77 per cent of expenditure was in WA where our operations and head office are based
- 8 per cent of expenditure was in Australian regional and remote areas
- 4 per cent of expenditure was in the Midwest region of WA where our operations are located, noting that the nearest community is 150km from DeGrussa.<sup>13</sup>

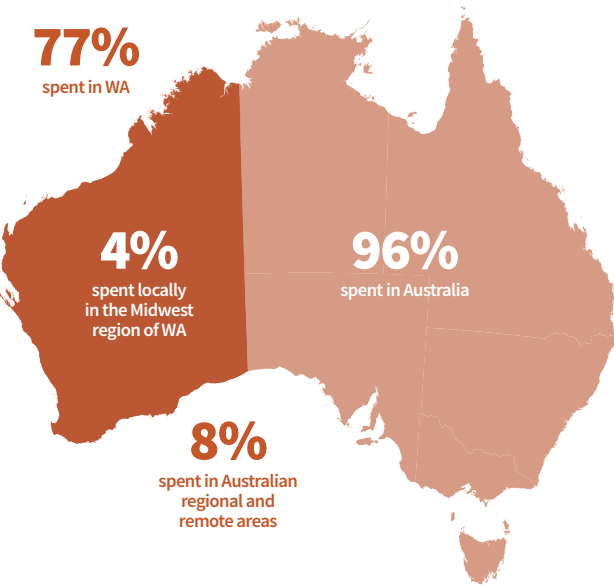


Figure 8 Breakdown of Sandfire expenditure by location

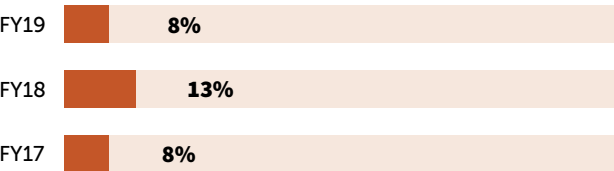


Figure 9 Regional spend as a percentage of total expenditure

Employment

Sandfire's total workforce at 30 June 2019 was approximately 487 comprising 251 employees and 236 permanent contractors.<sup>14</sup> The size of the workforce was consistent with FY2018.

Our workforce is predominantly fly-in-fly-out (FIFO), with the majority living in the Greater Perth region in Western Australia. A small number of employees are based at our regional exploration sites in NSW, QLD and NT.

Contractors provide significant services at DeGrussa and at our exploration sites, and consultants supplement expertise in key areas of our operations. We have several long-term commercial agreements with contractors who undertake components of our operation including:

- underground mining
- catering and village services
- haulage, freight and employee transport
- drilling and shutdown maintenance work

Our workforce is predominantly fly-in-fly-out (FIFO), with the majority living in the Greater Perth region.

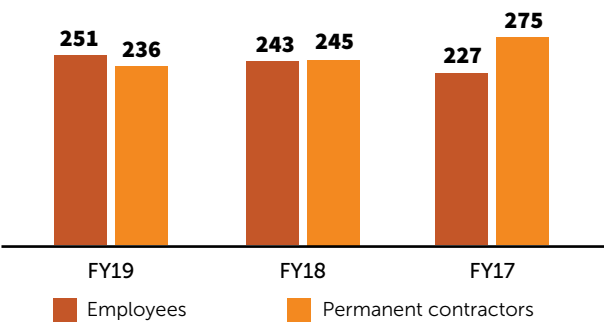


Figure 10 Size of workforce



<sup>14</sup> Permanent contractors are contractors working on a roster



Community investment

People living in regional communities can experience disadvantage across a number of important social and economic indicators compared with those living in metropolitan areas. Strategic investment in community projects that deliver long term benefits is one of the most direct ways we can help to address that disadvantage. Our aim is to ensure that our contributions, while impactful, do not create a legacy of dependence. To achieve this aim, we ensure that community projects have alternative sources of funding, and we are transparent about the expected life-span of our operations, prioritising projects where today's investment will yield benefits for years to come.

We speak with residents of Meekatharra and other towns in the Murchison on a regular basis to inform our understanding of the most important community needs. As a result, we designed sponsorship guidelines that target specific areas. These are:



Figure 11  
Community investment focus areas

In FY2019, we invested \$858,757 in community programs and partnerships, through direct funding and in-kind donation of time and resources. Of the total contributed, 65 per cent went to long term partnerships and nine per cent was provided in-kind, mainly through flights and accommodation. Our employees also give their time through hands on volunteering to support our community partners. During the year we developed a volunteer register to formally track volunteer hours and will report on this in FY2020.

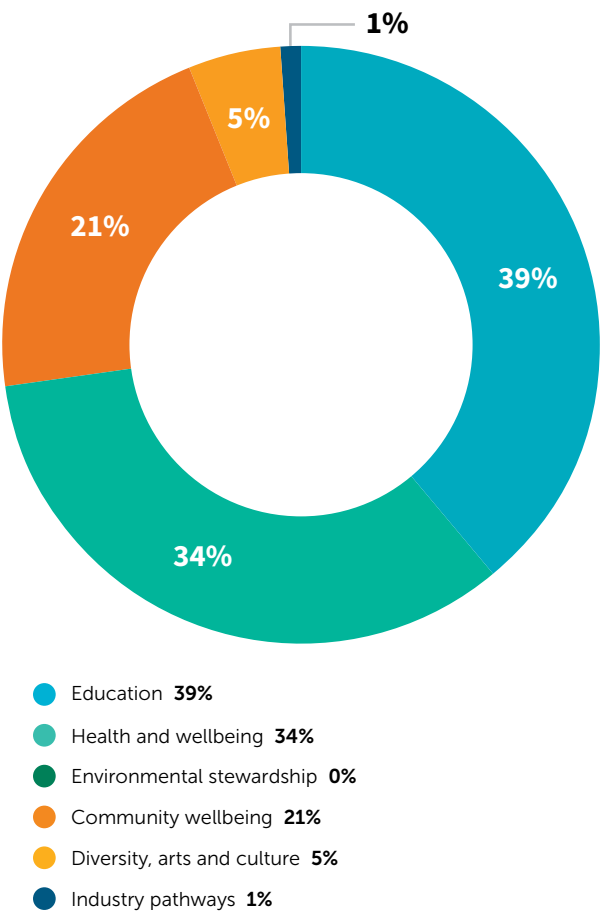


Figure 12  
Percentage of community investment by focus area

As can be seen in the figure above, the majority of community investment for the year was spent in education, health and wellbeing. Fewer funds were directed to diversity, arts and culture, industry pathways and environmental stewardship. We received fewer donation requests that met our investment criteria in these areas.

Our Donations, Sponsorship and Partnership Policy can be found on our website at <https://www.sandfire.com.au/site/sustainability/sponsorship-guidelines>. A list of beneficiaries of our FY2019 community investment can be accessed at [https://www.sandfire.com.au/site/PDF/2461\\_0/sfrfy2019donations](https://www.sandfire.com.au/site/PDF/2461_0/sfrfy2019donations)

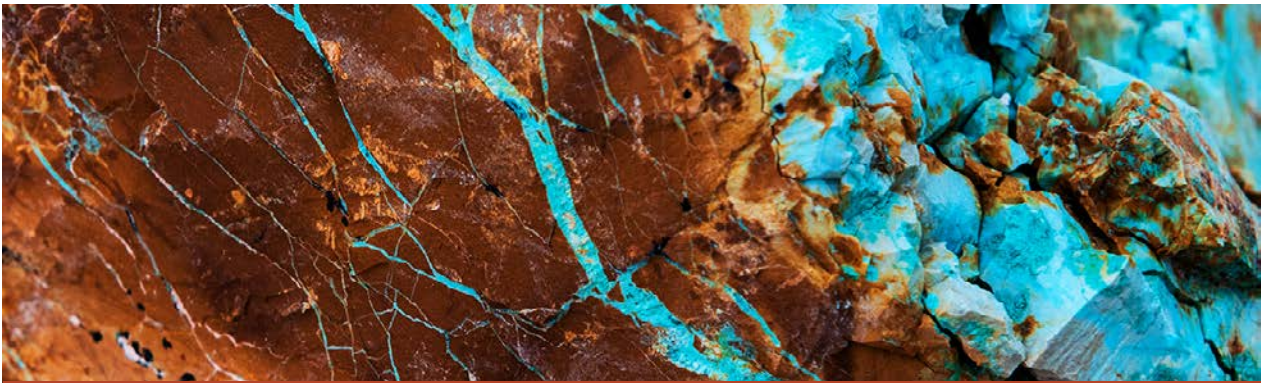


New partnership to fight youth mental health

During the year Youth Focus approached Sandfire to support its Youth Severe Service - a program that provides free psychological support for at-risk youth in the Murchison region of Western Australia. Together with business partners Sodexo and DDH1 Drilling, we established a partnership with Youth Focus to expand the program by employing a part-time female Aboriginal Youth Engagement Officer.

The program was developed specifically for the Murchison. It focuses on building relationships with local communities, employing local people and building the capacity of the clinical team to support Aboriginal groups. The team use art and music as key tools to engage young people.

The program has impacted approximately 80 young people and 200 adults within the greater community through family therapy work, cultural awareness training, case management meetings and community events such as open mic nights. The program is helping to break down the stigma of mental health issues and the barriers that many people face in accessing support from mental health workers.



Lou Christie Grant Program – empowering the next generation of geologists

Last year Louise Christie, one of our young geologists, sadly passed away. Louise had a passion for geology and a love of mentoring others to develop their skills, knowledge and interest in the field. In honour of Louise’s impact on the next generation, Sandfire in conjunction with her family worked together with the Australian Institute of Geoscientists to create the Lou Christie Grant Program.

The program will enable students and young geologists to develop vital skills for their careers. Grant recipients will be supported to attend their preferred geological program or Sandfire’s DeGrussa mine site and obtain work experience with geologists in their preferred field.

During FY2019, two applicants received funding to further their geological studies. One recipient will travel to Indonesia to complete a research project for his PhD studies. The other will travel to DeGrussa to spend a week with our geologists.





### Moments that matter

In September 2018, Sandfire sponsored participants from the Shooting Stars Leadership Program to attend the Women in Mining WA Summit. Shooting Stars is the charity partner of Netball WA and a Sandfire community partner. Shooting Stars uses netball and other activities to encourage greater engagement and attendance at school for young Aboriginal and Torres Strait Islander girls in WA's remote communities.

At the Summit, Shari Comeagain, a Shooting Stars participant enjoyed encounters with successful female leaders, and was exposed to the career options that awaited the conclusion of her schooling. Her experience at the Summit, which included catching the attention of renowned journalist Annabel Crabb, inspired Shari to apply for university and seek employment with Shooting Stars.

In January 2019, Shari enrolled in a Bridging Course at the University of WA. The course will prepare Shari for entry to Arts, Science, Biomedical Science or Commerce undergraduate degrees. To support her studies, Shari attends Dandjoo Darbalung (an academic assistance and cultural engagement program for Aboriginal students) at St Catherine's College. In 2018, Sandfire entered a three year partnership with Dandjoo Darbalung.

Shari's story highlights the value of providing young people with the opportunity to broaden their horizons and exposure to a wider range of career opportunities. We wish Shari all the best with her studies and look forward to seeing her on the netball court with the next generation of Shooting Stars participants.



## Supporting communities through the mining life cycle

To commission or decommission a mine has a significant impact on local communities. The impact will vary according to the location, size, commodity and operating plan of each mine.

During mine construction and operation, nearby communities typically benefit from improved employment opportunities, local spending and community investment. Depending on the distance between the mine and town and location of the workforce, communities may experience increased traffic, dust and demographic change. When operations cease, the impacts, both positive and negative, subside. Whether we are approaching mine closure or planning to commission a new mine, we are committed to supporting communities to adjust to the change.

### Supporting the community at DeGrussa

Based on our current mine plan, mining activities at DeGrussa operations are projected to cease in mid-2022. While we are actively exploring and investing in potential development opportunities in the Doolgunna area, we are committed to supporting our communities to adjust to the impacts of closure and aim to leave a positive legacy in the region.

**We prioritise donations and sponsorship of programs focused on community needs such as education and health, with the aim to facilitate benefits that will extend into the future.**

However, we understand that when this financial support eventually ceases there will be an impact on the provision of these services. For this reason we seek out partnerships that have sustainable funding models.

We have engaged closely with stakeholders on mine closure to ensure we have agreed objectives with them. In FY2019 we undertook targeted outreach to understand stakeholder expectations of Sandfire through the mine closure process. While the foremost priority was returning the land to its original state, our stakeholders told us that early, ongoing communication about closure planning was important as was finding avenues to facilitate ongoing social benefits.



## Mine closure, governance and reporting

During the year, Sandfire established a Mine Closure Management Committee (MCMC) to oversee Sandfire's overall approach to mine closure. The MCMC will oversee all aspects of mine closure from stakeholder engagement, risk management and systems, to communications, governance, legal and commercial. This includes important areas such as the impact on our workforce, environmental remediation, how we will exit community and how we will continue community support. The MCMC meets biannually and reports to the GMT and Sustainability Committee. This initiative goes beyond our legal obligations and is viewed as an aspect of our social responsibility.

In FY2020 Sandfire will review mine closure risk assessments for the DeGrussa operations, and conduct a high level business closure risk assessment. The results of the risk assessments will inform the development of a mine closure strategy that incorporates environmental, social and governance elements.

From the very beginning of our operations we have planned for closure in line with our regulatory obligations. Sandfire has a Mine Closure Plan (MCP) for the DeGrussa Mine and Monty Mine approved by the WA Department of Mines, Industry, Regulation and Safety (DMIRS). MCPs include a closure planning and implementation schedule that we closely monitor. The DeGrussa MCP was approved in FY2017 and the Monty MCP was approved in early FY2018. In the coming year, Sandfire will provide an updated MCP to the regulator for approval for both the DeGrussa Mine and Monty Mine.





## Supporting the community at Black Butte

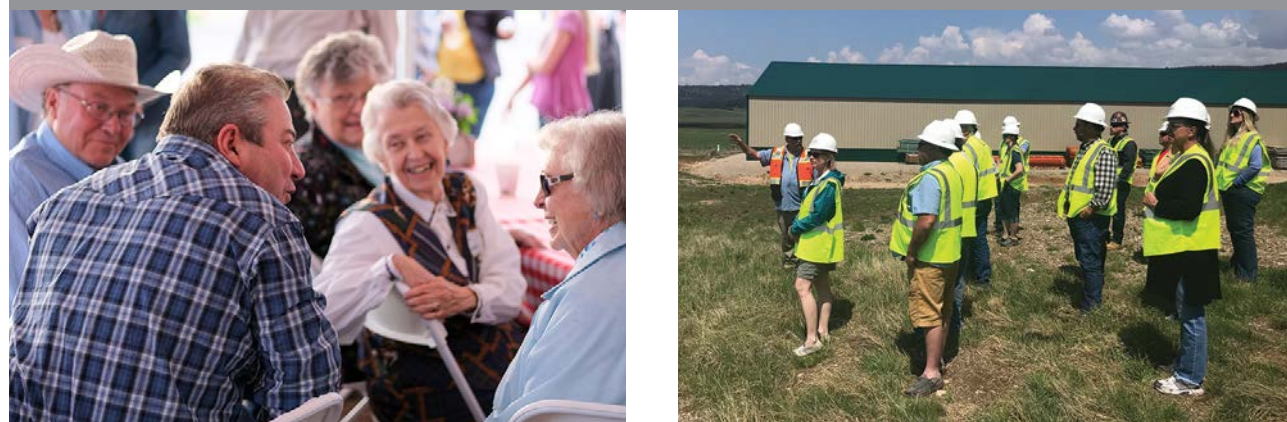
The closest town to Sandfire America's Black Butte Copper project is White Sulphur Springs, located 17 miles south of the project and situated in Meagher County, Montana, USA. Managing the expected impacts to White Sulphur Springs and Meagher County has been a key focus for Sandfire America. This begins with understanding the impacts of a new mine.

A unique statutory requirement of Montana is the Hard Rock Mining Impact Act (HRMIP). As part of Sandfire America's obligations under the Act, it has undertaken studies and engaged with local authorities to determine the potential socio and economic impact of the mine on county government, city government and schools including law enforcement, infrastructure and roads.

To support a smooth transition, Sandfire America has allocated funds to cover these costs. This ensures no lag time between the anticipated increase in population and the availability of new infrastructure. Total projected payments before construction are calculated at US\$450,000 and secured with a financial guarantee.

Sandfire America anticipates that during peak production, Meagher County will have approximately 250 additional residents including over 30 school students, with the majority residing in White Sulphur Springs.<sup>15</sup> Other expected impacts can be viewed on the Sandfire America website.<sup>16</sup>

Sandfire America understands that their social licence to operate in Montana is directly tied to their efforts to engage with the local community and make this journey together. They meet regularly with community groups to ensure any community concerns are being addressed, run monthly site tours and deliver presentations to school and civic groups throughout the State.



<sup>15</sup> Numbers have been rounded. See <http://www.sandfireamerica.com/assets/docs/library/BBC%20Hard%20Rock%20Mining%20Impact%20Plan%20with%20Amendments%20Final%20.pdf>

<sup>16</sup> <https://blackbuttecopper.com/community/#impact>

## Exploration and future development

Sandfire has a significant ongoing exploration commitment within the Greater Doolgunna region which includes 6588km<sup>2</sup> of 100 per cent owned and joint venture tenements. We are focused on building a robust project pipeline from early stage to development assets and have invested in a portfolio of joint ventures and initiatives in prospective mineral provinces in Australia and overseas.

### Monty Copper-Gold Mine

Over the past 12 months, we completed the development of the new high-grade Monty Copper-Gold Mine, located 10 kilometres east of DeGrussa. This represented a major milestone for the business, with ore now processed through the DeGrussa process plant. Ore blended from DeGrussa and Monty will raise the expected copper output to 75-80,000 tonnes per annum from FY2020. Through the diligent work of our team, we delivered this project safely, efficiently, on-time and on-budget.

Having completed the acquisition of Talisman Mining Ltd's 30 per cent interest in the project during the year, Sandfire is now the sole owner of the the Monty Mine and the surrounding exploration tenure.



### Doolgunna region and Australia

Sandfire has a large portfolio of gold and base metal exploration projects in the Greater Doolgunna region and along the Australian east coast. In FY2019, we expanded our exploration footprint in the Doolgunna region through a joint venture with Alchemy Resources.

Stakeholder engagement is an intergral element of our exploration program. We engage regularly with native title groups and local property owners to discuss the areas we intend to explore and how we can minimise the impact of our activities. We place a high emphasis on managing environmental impacts through progressive rehabilitation and work closely with native title groups to identify ways to minimise disturbance of ground geophysical surveys.

### International business development (Sandfire Ventures)

Sandfire holds financial interests in companies and joint venture projects overseas that we do not operate. These include White Rock Minerals, Adriatic Metals PLC and Metminco Limited. These entities operate exploration projects in Alaska, Bosnia-Herzegovina and Colombia respectively.

While technical merit drives investment in joint ventures, their values and ethics form an important part of our investment consideration. We understand that each region has a different set of social, economic and environmental priorities and we endeavour to stay abreast of any issues that may arise through regular engagement with our partner companies.

**We place a high emphasis on managing environmental impacts through progressive rehabilitation and work closely with native title groups to identify ways to minimise disturbance of ground physical surveys.**



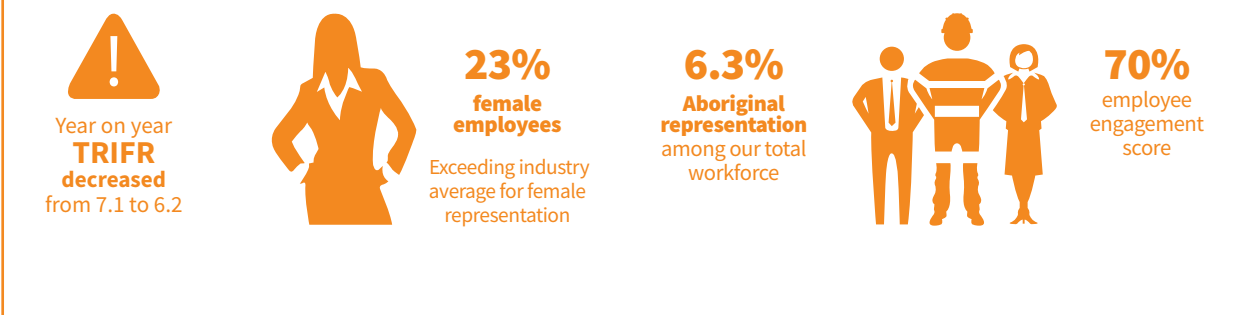
# Building a safe and supportive workplace



## Our aim

We place great emphasis on providing a safe and inclusive workplace where employees are empowered to develop the skills they need to reach their potential in our organisation.

### Performance Summary



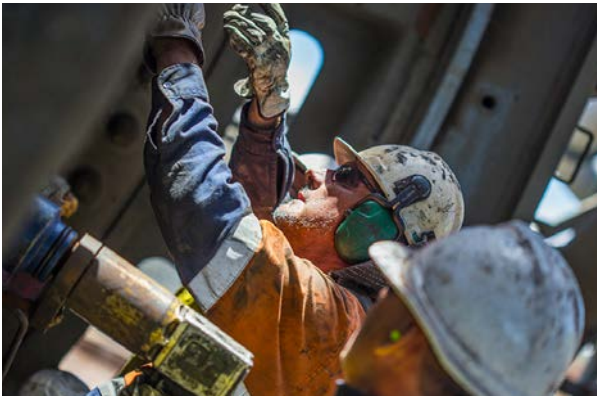
## Safety

The mining industry has seen significant progress over the last decade in how it addresses safety. There are inherent hazards on every mine site but we work hard to ensure that each of our employees and contractors return safely home at the end of each roster. Our number one priority is for no fatalities or serious incidents to occur. To achieve this we have structured our safety systems around the identification of principal hazards and controls to reduce risk to as low a level as reasonably practicable.

### Safety performance

This year our total recordable injury frequency rate (TRIFR) reduced from 7.1 to 6.2, a 12 per cent decrease on the previous period. This improvement was driven by deeper engagement on safety with one of our primary contractors and implementation of new safety initiatives based on analysis of historical trends.

While we are pleased with this progress, we did not meet our TRIFR target of 4.5. We continue efforts to reach our target by maintaining a strong focus on safety leadership and culture, instigating new safety initiatives, effectively managing our principal hazards and working closely with our contractors to ensure their safety systems are aligned with ours.



There were no work-related fatalities or serious incidents during FY2019 but we experienced nine recordable injuries. Injuries were predominantly incurred by contractors at DeGrussa and consisted mainly of injuries to fingers and backs. We try to learn from every incident to prevent reoccurrences.

Common causes of injuries were being struck by or caught between objects. We are tackling these issues through stronger education on safety risks.

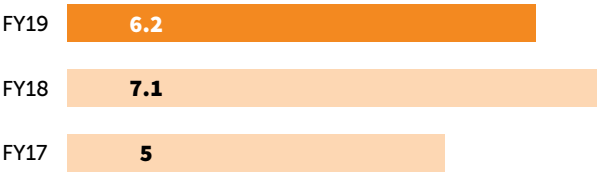


Figure 13  
TRIFR (per million hours worked)





## Switch on to Work

While assembling statistics to highlight safety incidents in the lead up to the extended holiday period in December, we identified that January typically had more safety related incidents than other times of the year. This led us to believe the spike in incidents in January was caused by a lack of focus when people returned to work from annual leave.

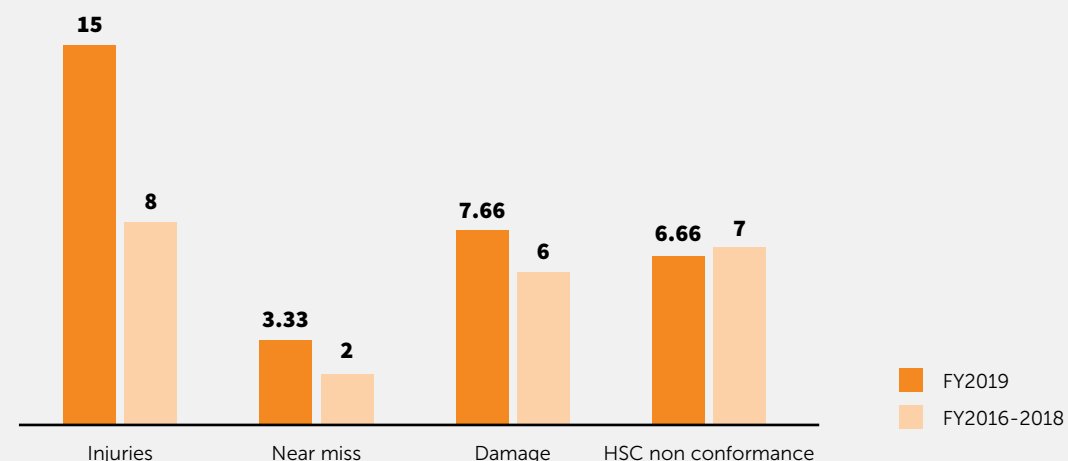
The Switch on to Work program was designed to engage work groups in discussion around January incidents that occurred in past years. Essentially, to focus teams on being back at work with the aim of preventing reoccurrences.

On return to site in January, every employee was presented with a "Switch on to Work" flyer asking the question - Where's your head at? This outlined the campaign and prior January statistics.

Every day in January, area supervisors read out a song quiz at the start of each shift. The quiz answers all contained a twist where the song title was linked to a safety related concept. Supervisors also read out a list of "on this date" incidents for discussion. To round out the campaign we placed banners with different injury statistics at entry points to work stations. These were rotated throughout the month.

While the results cannot be definitively attributed to these initiatives, there was a notable reduction in injuries. Compared with the previous three year average of January injuries, we achieved a 47 per cent reduction.

Along with improved safety performance, we received positive feedback from the workforce. Work groups enjoyed the engaging nature of the campaign and endorsed the initiative as a good way to get people thinking about safety after returning from holidays.



**Figure 14**  
Comparison of January injury statistics

## Safety management and governance

The Sandfire Board has ultimate responsibility for overseeing Sandfire's Health and Safety Management System (HSMS). To execute these duties the Board requests assurance from each Business Unit that critical risks are effectively managed to as low a level as reasonably practicable and any other safety related issues are raised and addressed accordingly.

Based on AS/NZS 4801:2001 and 4804:2001, the HSMS covers everyone who performs work at any of our sites, including contractor personnel. The HSMS identifies 12 elements that support the goals of Sandfire's occupational health and safety policies. These elements outline expectations in key areas of health and safety management and have associated standards and supporting procedures.

Sandfire undertakes a program of monitoring, auditing and reviewing to ensure effectiveness of the HSMS.

An external audit of Sandfire's HSMS was conducted during the year. Sandfire Business Units were found to have a strong safety focus and many of the key aspects of the HSMS were well entrenched. The report noted that our "Don't Walk Past" ethos was well embedded, however there are opportunities for some Business Units to improve application of selected HSMS elements. These included understanding how we meet our legal obligations, capturing information and strategic planning.

Sandfire encourages active participation in the development, implementation and evaluation of its HSMS. Several of our HSMS standards have been reviewed and amended in preparation for the release of the Sandfire Integrated Management System (SIMS). SIMS integrates all of Sandfire's systems and processes into one complete framework, to effectively and systematically manage aspects of the business, including safety, health and wellbeing.

We also provide various platforms to engage with and address safety related matters. Our Corporate Health and Safety Committee is comprised of Business Unit Managers and meets quarterly, with a non-executive director invited to attend. Our people participate in monthly health and safety meetings and a quarterly Health and Safety Representative Committee is in place at our DeGrussa operation. Each permanent contractor or employee work group must have a safety representative elected by peers to represent them in discussions with management on occupational health and safety matters. These representatives are registered with DMIRS.

Sandfire provides health and safety training for employees and contractors. Training includes at a minimum, inductions, mobile equipment operating training, standard work practice training, and health and safety awareness training.







## Risk, hazards and investigation

Risk management is fundamental for our safety management system. We seek to identify potential risks and define strategies for eliminating or minimising the impact of these risks. Our safety system is built around preventing fatalities and serious incidents by identifying principal hazards and implementing controls to reduce the risks arising from those hazards. Principal hazards are those hazards that have a significant fatality risk.

We have a number of processes to systematically identify work-related hazards and to assess risks on a routine and non-routine basis.

Safety risk registers have been established and are reviewed on an annual basis. This is a formal process involving a team which allows us to review existing risks, identify any new and emerging risks and determine appropriate methods to eliminate or reduce the risk or hazards.

Incident management is an essential component of risk management. It identifies failures in processes and practices. Sandfire expects timely reporting and accurate classification of incidents to determine an appropriate level of investigation through analysis of causal factors, an understanding of the potential outcomes, including any relation to principal hazards and the assignment of actions to ensure that improvement opportunities are realised.



## Sandfire supports Mining Electrical Safety Association WA

Increasing awareness of electrical safety practices is important for all mining companies. That is why Sandfire is supporting the formation of the Mining Electrical Safety Association (MESA) in WA. MESA, established in Queensland, seeks to improve electrical safety performance in the mining sector by liaising across the industry to identify electrical safety problems, encourage peer learning and provide guidance on industry best practice.

This is mainly achieved through an annual conference that brings together government departments, consultants, suppliers and key decision makers within the electrical field to hear technical presentations on matters relating to electrical safety in the mining industry. The conference provides a platform for industry members to share stories and learn from each other's mistakes. Sharing experiences can be difficult as it highlights the failures of organisations which have resulted in damage, injury or death.

After attending several MESA conferences in Queensland, former Sandfire employee Peter Gordon concluded that WA needed a similar organisation to create awareness of electrical safety in hard rock mining. Since that point, Peter has been the driving force behind the establishment of MESA WA. To support Peter, Sandfire provided legal advice, financial and in-kind support, and helped to facilitate stakeholder meetings. MESA WA has made great strides and its inaugural annual conference will take place on 1 November 2019. We thank Peter for committing his time and effort to this valuable cause and look forward to working with MESA WA to improve the standard of electrical safety in mining.

## Health and wellbeing

We strive to create a workplace culture in which our people are able to bring their best selves to work. To achieve this, we have implemented a number of initiatives and standards focused on physical health and mental wellness. Our HSMS requires personnel be assessed for their fitness to work and that health and hygiene hazards are understood and managed. Each year our Business Units undertake a review of their health risk registers which describe how health hazards will be controlled.

The benefits of physical exercise to mental wellbeing are well known. At DeGrussa we have a gym, sports courts and walking track for our workforce to use at the accommodation camp. We work with our catering contractor to offer healthy food options. We also drive annual health initiatives including skin cancer checks and flu vaccinations.

The last decade has seen a concerning increase in the diagnosis of mental health illness within the mining sector. The nature of FIFO mining, which combines time away from family with long hours and physically demanding tasks, can create a challenging work environment.



We aim to ensure our people feel safe to reach out for help and are equipped to recognise the signals that could indicate a colleague may need help.

All employees, contractors and their immediate family members have access to our Employee Assistance Program (EAP), a confidential service that supports, guides and counsels people to manage their mental health. We also provide mental health wellness training to our employees every two years, focused on raising awareness of mental health in the workplace and imparting strategies to manage mental wellbeing (see case study below).



## Mental health wellness training

Either side of the New Year, Sandfire employees and a selection of contractors attended mental health wellness training. Mental health has been a strong focus for our business over the last few years as we seek to support our workforce who face challenging work environments.

The half day training sessions, were focused on improving understanding of mental health and reducing the stigma associated with mental health issues. Participants discussed how to support individuals with mental health challenges and were provided with strategies to promote their own mental wellbeing. This included understanding and managing stress and developing a positive work-life balance. A key part of the session was raising awareness of the various avenues for accessing assistance and empowering our people with the skills to assist others.

It was a powerful experience for our workforce to learn, discuss and share stories about mental health and erase the stigma attached to the illness. Given the increasing focus on mental health in mining, it is a topic to which many can relate. The feedback from the training was encouraging with 89 per cent of people confirming the session would be useful to manage mental health wellness in future.



Engaging and developing our people

We aim to create an enriching work environment for our people through fostering meaningful work, providing opportunities for growth, and ensuring our employees feel recognised and appropriately rewarded. We have regular dialogue with our employees, biannual performance reviews and two-yearly engagement surveys to understand how we can provide the best possible work experience.

Employee engagement

In FY2019 we undertook our biannual employee engagement survey.

Our employee engagement score was 70 per cent – an increase from 2017 (67 per cent). The survey tested ten attitudes towards work, of which nine showed improvement and one demonstrated no change. Attitudes towards management, safety and personal empowerment were the highest scoring, while perceptions towards training and opportunities for growth remained low. This will be a focus area for improvement going forward.

This year, our employees at head office drove an initiative to increase the flow of information between staff and management personnel, and across Business Units. This was achieved through the introduction of weekly pre-start meetings. The meetings are an open invitation to staff to provide updates from their departments, celebrate accomplishments and ask questions about any aspect of Sandfire operations.

We also introduced monthly BBQs where we invited our long-term community partners to provide updates on their activities. These presentations help connect our people with our values and the difference we aim to create.

On site, the DeGrussa Social Committee organise social and sport events for our employees and contractors. These events provide opportunities for people to take their mind off work and build relationships with colleagues. Activities organised by the Committee include quiz nights, footy tipping and photo competitions, Christmas and New Year celebrations.

Training and development

Providing opportunities for our people to develop both professionally and personally is one of the most significant impacts we can have as an employer. We view employee participation in training and development programs as a benefit to all parties, driving greater employee engagement, job satisfaction and productivity.

In our 2017 and 2019 employee engagement surveys, our employees raised concerns about opportunities for professional growth due to our size and visible mine life. We aim to address this concern through creating training and development plans for employees at all levels. These will become integrated into our ongoing performance review process.

We provide both professional and personal development programs for our employees and are working to improve training data capture. In the past year, 11 employees accessed Sandfire’s further education support, which includes part-sponsorship for course fees as well as dedicated study leave.

To support career pathways in mining, we were pleased to take on 13 vacation students and offer three new trainee positions at DeGrussa. The vacationer program and traineeships help to build practical skills, boost employability, provide exposure to a career in mining and may help address declining enrolments in mining-related university courses.

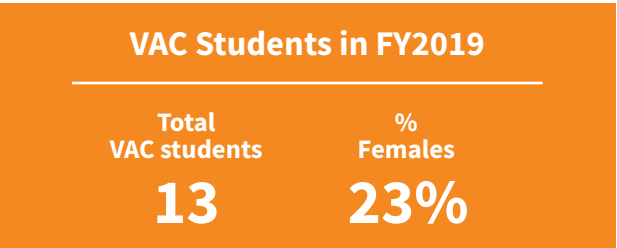


Figure 15 Percentage females among VAC students

A highlight from the year was the participation of one of our female employees in the Women in Mining WA mentoring program. Participants in the program receive support and guidance from experienced mentors to develop career goals and build networks in the mining industry. Two of our female managers also attended the Deloitte Resourceful Women Leadership program.

Over the next 12 months we will roll out succession plans for senior managers across the business. Succession planning will help identify skills gaps and inform strategic development programs to ensure our people are equipped to assume senior roles when opportunities present.

In FY2020, our managers will undertake leadership development training to build on their skills and capacity as leaders in the business. The program is targeted towards building an effective, consistent, values aligned and cohesive leadership culture that promotes the development of all employees.

Diversity and inclusion

Sandfire is committed to nurturing a culture of diversity and inclusion, where differences are valued and everyone is treated with respect. We believe that the diverse backgrounds and experiences of our employees positively contribute to our organisational culture and encourage greater innovation, productivity and profitability.

Over the past year, female representation among employees improved to 23 per cent compared to an industry average of 16.7 per cent<sup>17</sup>, reflecting the success of our current initiatives. Appropriate retention strategies will help maintain and grow this position.

During FY2019, we developed Diversity Action Plans for key areas of the business. The plans provide a roadmap to improve gender diversity and provide a platform against which we can track progress. We also refreshed our Diversity and Inclusion Policy.<sup>18</sup>

Sandfire’s Diversity Committee, Chaired by CEO, Karl Simich, is responsible for overseeing the Diversity and Inclusion Strategy, which aims to support female and Aboriginal representation, improve employee engagement and ensure people are living Sandfire’s values. The Diversity Committee is supported by the Diversity and Inclusion Working Group, which is responsible for implementing diversity initiatives across the business.

We evaluate the success of our approach to diversity and inclusion through a number of avenues. In addition to monitoring workforce statistics, we utilise the employee engagement survey, comply with the Workplace Gender Equality Agency’s annual reporting requirement<sup>19</sup>, and this year completed an external gender pay gap audit. The audit concluded that Sandfire did not have a gender pay gap.

- Our plans for next year include:
- implementing action plans for executive and management personnel, trades, and machinery operators
  - developing succession plans for our executive and management teams guided by our action plans
  - improving current female representation at the senior executive level
  - continuing to encourage an inclusive culture across the business.

We also aim to improve current female Board representation when it is appropriate to expand and revise the structure of the Board.



<sup>17</sup> WGEA Data Explorer, Mining Summary for 2018; <https://data.wgea.gov.au/industries/87>  
<sup>18</sup> Diversity and Inclusion Policy; [https://www.sandfire.com.au/site/PDF/2134\\_0/diversityandinclusionpolicyfinal](https://www.sandfire.com.au/site/PDF/2134_0/diversityandinclusionpolicyfinal)  
<sup>19</sup> 2019 WGEA Report; [https://www.sandfire.com.au/site/PDF/2364\\_0/WGEAReport](https://www.sandfire.com.au/site/PDF/2364_0/WGEAReport)



Aboriginal engagement

We share the International Council on Mining and Metals’ vision for constructive relationships with Aboriginal people based on mutual respect, meaningful engagement, trust and mutual benefit.<sup>20</sup> As custodians of the land where we operate, we actively engage with our Aboriginal stakeholders to build positive relationships and provide opportunities for economic empowerment.

During FY2019, Sandfire attended a number of meetings with the Meekatharra Aboriginal Reference Group (MARG). MARG is a committee comprised of local Aboriginal leaders, government personnel and human service providers that aim to develop solutions to social and economic issues affecting the community. The meetings enable us to engage with Aboriginal leaders, understand community challenges and contribute to solutions.

We also engage with Aboriginal groups through informal meetings where we discuss employment prospects, community priorities and concerns, and opportunities to work collaboratively on heritage surveys.

Promoting employment opportunities

We aim to provide sustainable employment and career development opportunities for Aboriginal people across all facets of the organisation. Our Aboriginal Employment Policy<sup>21</sup>, updated in FY2019 sets out our commitment to the employment of Aboriginal people and the initiatives through which we demonstrate this.

We employ a fulltime Aboriginal Liaison Coordinator to identify and support Aboriginal employment for Sandfire and our contractors. This role involves engaging with Aboriginal groups in Meekatharra, mentoring Aboriginal workers on site, and ensuring managers and supervisors develop their understanding of Aboriginal culture through cultural awareness training. Recognising that contractors represent a significant component of our operations, major long-term contractors are contractually obliged to have a minimum of five per cent Aboriginal workforce representation.

Having achieved our Aboriginal employment target<sup>22</sup> of five per cent over a number of consecutive years, we increased our target to seven per cent at the beginning of FY2018.

Aboriginal participation in the workforce was 6.3 per cent in FY2019, compared with 7.4 per cent in FY2018. While fluctuations are to be expected, we do focus on the retention of Aboriginal workers.



Figure 16  
Aboriginal workers as a percentage of the workforce

Native Title Group engagement

DeGrussa, Monty and our Australian exploration projects are on land that is subject to seven native title claim applications and eight determined native title claims. As such, it is essential that we have healthy, productive and respectful relationships with these groups.

Each of our operations has Heritage Agreements and Land Access Agreements in place that protect cultural heritage sites and offer opportunities for employment, education and commercial contracts. Since FY2018, our agreements with native title groups have not changed and can be viewed in last year’s sustainability report.<sup>23</sup> As part of our agreements, we have a scholarship fund for the Yugunga-Nya and Gingirana People. The scholarships provide for public or private school education, TAFE and university courses, and sporting programs.

We meet with the Yugunga-Nya People, who are the recognised Native Title Claim Group for the land on which DeGrussa is located. These meetings are an open discussion on employment, education, training and commercial opportunities, as well as any heritage and environmental concerns that the group may have in relation to our activities.

We have similar discussions with the Gingirana People and the Nharnuwangga, Wajarri and Ngarlawangga People who are both recognised Native Title Determination Groups on tenements adjacent to the DeGrussa mine.



Figure 17  
Number of heritage surveys completed this year and in total

Cultural awareness

We aim to build an awareness and appreciation for Aboriginal culture and history connected with

our region. To achieve this, Sandfire employees and contractors are required to undertake face-to-face cultural awareness training focused on the heritage, customs and way of life of Aboriginal people.

Training is designed to strengthen engagement with Aboriginal people across our business and communities.

Where possible the training is facilitated by members of the Yugunga-Nya Native Title Claim Group. During FY2019, we ran nine cultural awareness training sessions.



Supporting end to end education

Prior to FY2019, our focus on Aboriginal education had centred on school retention programs. During the year we were introduced by Independence Group NL to a program that supports Aboriginal students to pursue a university education, Dandjoo Darbalung. Wanting to support the complete educational journey, we were proud to enter a three year partnership to support the program.

Dandjoo Darbalung is a tailored academic and cultural program for Aboriginal students living at St Catherine’s College. Over 80 Aboriginal students from five Perth universities are enrolled in the empowerment-focused program, which involves academic assistance, cultural activities, exposure to employment opportunities, and learning and networking events. Adding Dandjoo Darbalung to our partnerships with Shooting Stars and the Stephen Michael Foundation means we can support a student from primary school to employment.

The Dandjoo Darbalung program has quickly gained traction in the community with students being invited to various events around Perth and the wider region. Students have attended Reconciliation Action Plan launches, art and theatre events and career expos. Dandjoo Darbalung participants have also visited a number of local schools to educate students on the academic and cultural aspects of the program.

The program sets a high bar for retention, academic excellence and gaining employment. The retention rate of Aboriginal students in university degrees nationally is well below the average for all students. The retention rate of Dandjoo Darbalung students was 98 per cent this year and 78 per cent of grades were pass or above. Many students in the program are currently employed or have undertaken work experience in sectors including government, NGOs, entertainment and trades.

A highlight from the year was a Kalgoorlie school visit by nine Dandjoo students to talk about education, culture and the 2019 NAIDOC Theme; Voice. Treaty. Truth. The Dandjoo Darbalung students and local students worked together to create an artwork which was donated to the school. It was a meaningful and enjoyable experience for all involved.

<sup>20</sup> <https://www.icmm.com/en-gb/members/member-commitments/position-statements/indigenous-peoples-and-mining-position-statement>  
<sup>21</sup> [https://www.sandfire.com.au/site/PDF/2151\\_0/aboriginalemploymentpolicy](https://www.sandfire.com.au/site/PDF/2151_0/aboriginalemploymentpolicy)  
<sup>22</sup> This is a workforce target, comprising Sandfire employees and contractors  
<sup>23</sup> [https://www.sandfire.com.au/site/PDF/2360\\_0/SustainabilityReport](https://www.sandfire.com.au/site/PDF/2360_0/SustainabilityReport)



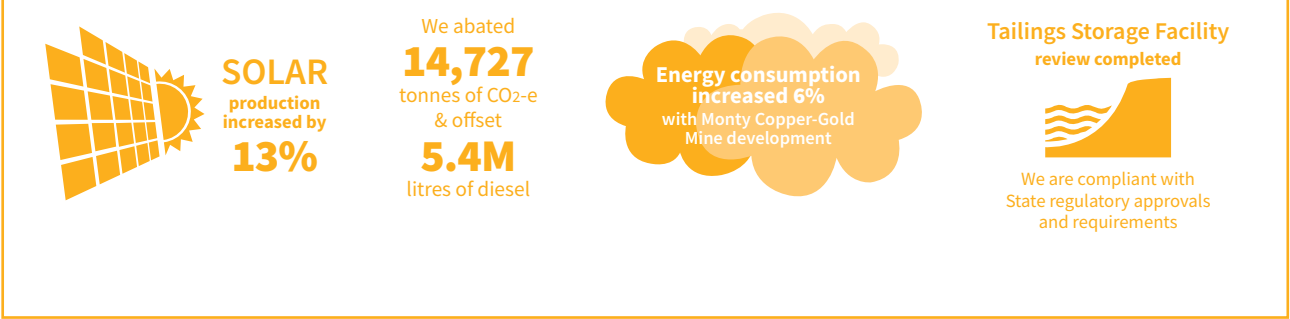
# Operating responsibly



## Our aim

We undertake our work in a manner that respects and supports people and the environment. We aim to avoid, reduce or mitigate negative environmental impacts at every stage of the mining life cycle.

### Performance Summary



## Energy and emissions

Mining is an energy intensive industry. In total, the industry accounts for approximately 10 per cent of Australia’s energy consumption.<sup>24</sup> Sandfire uses large volumes of diesel in underground operations, and processing. Further downstream, processing of concentrate through smelters and refineries also has high energy requirements. Over the years, Sandfire has sought to reduce energy use and carbon emissions in line with community expectations and operational targets, ultimately aiming to lower our impact on the environment.

Our approach centres on identifying opportunities to reduce energy use, integrate renewable energy and use energy as efficiently as possible. In FY2019, we focused in particular on integrating renewable energy from our keystone DeGrussa Solar Project, commissioned in 2016. To date, the solar facility has produced 186,186 GJ and saved 33,421 tonnes of CO<sub>2</sub>-e (see case study on page 51).

In FY2020, we will develop an Energy Strategy, an Energy and Greenhouse Gas Management Standard and a Climate Change Management Standard to formalise our approach. We evaluate our progress and approach through tracking our energy intensity, scope 1 and scope 2 emissions.

## Energy performance

Our energy use for FY2019 was 1,358,306 GJ, a six per cent increase on FY2018. Our solar facility provided 17 per cent of DeGrussa’s power consumption.

The Monty mine draws on additional energy for underground mine development, maintenance of infrastructure and hauling ore to DeGrussa for processing. We expect energy requirements to increase as mining depth increases, however we are working to identify opportunities to save energy and will develop an Energy Strategy in FY2020 to support this goal.

FY19	1,358,306
FY18	1,284,899
FY17	1,223,498

Figure 18  
Energy consumption (GJ)

<sup>24</sup> <https://arena.gov.au/assets/2017/11/renewable-energy-in-the-australian-mining-sector.pdf>



Emissions performance

Greater energy demand drove a five per cent increase in scope 1 and 2 emissions. We offset part of our additional energy requirements through undertaking work to optimise the solar facility and realised a 13 per cent increase in production, which abated, 14,727t of CO<sub>2</sub>-e and saved 5.4 million litres of diesel.

In FY2019, our emissions intensity was 1.28 tonnes of CO<sub>2</sub>-e per tonne of copper produced – a two per cent improvement on FY2018. This result was driven by an increase in copper concentrate produced, largely due to the inclusion of higher grade ore from Monty. Previously, emissions intensity was reported as the ratio of carbon emissions produced to quantity of ore milled. We updated this measure to align with our ultimate operational target which is quantity of copper produced. As such, we have set a new target to reduce emissions intensity (using this new measure) by eight per cent against an FY2019 baseline by mid-2022. We believe the new target is both meaningful and attainable.

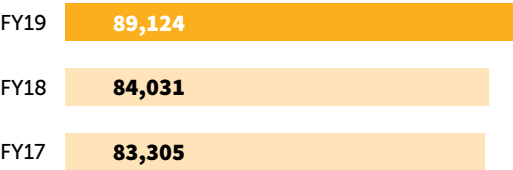


Figure 19 Scope 1 and 2 emissions (tonnes of CO<sub>2</sub>-e)

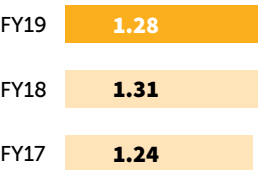
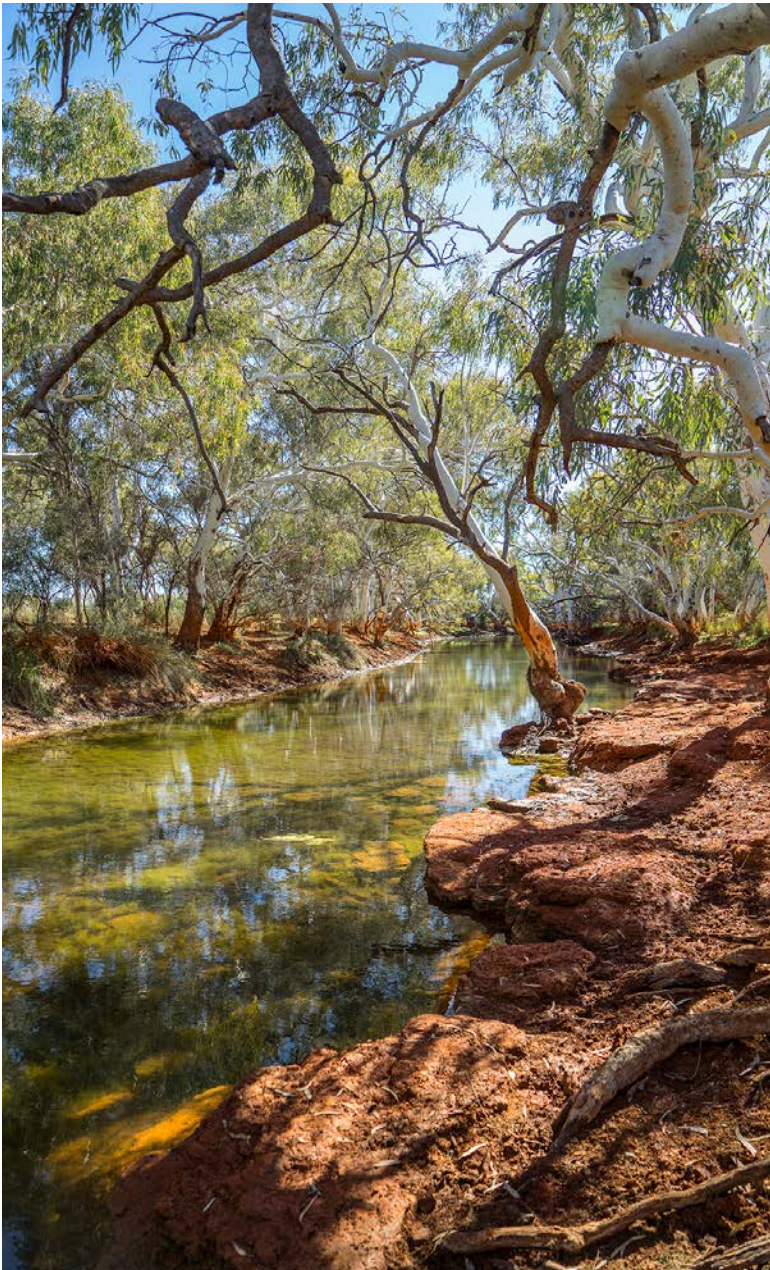


Figure 20 Emissions intensity (tonnes of CO<sub>2</sub>-e per tonne of copper produced)



Figure 21 Carbon emissions abated through solar (tonnes of CO<sub>2</sub>-e)



Optimising our solar project

The DeGrussa Solar Project is a photovoltaic (PV) solar (10 MW) and battery (1.81 MWh) system. The system was integrated within an existing diesel power station in mid-2016. During FY2019, the plant went through a series of optimisation changes to increase the ability of the solar plant to supply power to the DeGrussa grid.

The key changes were related to the solar covering ratio and mine operating spinning reserve control settings. The solar covering ratio was reduced from 100 per cent to 80 per cent, meaning that only 80 per cent of the total PV generation has to be covered by a combination of battery and diesel spinning reserve. The operating spinning reserve was reduced from 8MW to 6MW, reducing the number of diesel generating sets online from six to five.

Since the changes, we are able to produce 0.5MW of solar above the previous settings. The annual average solar power is now 57 per cent (8MW), covering 57 per cent of the total mine demand during daylight hours (50 per cent before). At peak power, the plant covers 68 per cent (9.5MW) of the total grid needs. This occurs in the summer months when irradiance is higher. In some instances, we’ve observed 9.9MW of solar penetration, covering 71 per cent of the total daylight hour needs.

Water

Water is one of the most valuable resources in mining. We aim to demonstrate strong water management by using this resource responsibly and efficiently.<sup>25</sup> We extract water from underground aquifers and fractured rock aquifers to access the orebody, process copper concentrate, suppress dust, provide drinking water and ensure the health and wellbeing of our workforce.

Sandfire’s water activities are regulated by relevant State legislation through operating licences and approvals which have set quality and quantity thresholds. We use regulatory licence requirements and Australian Standards to inform our water management approach and report to the WA Department of Water and Environmental Regulation on water abstraction and discharge through the Annual Aquifer Review and Annual Environmental Report.

DeGrussa and Monty are located in an arid environment, experiencing low rainfall and regular droughts, and as such they are classified as having a high overall water risk.<sup>26</sup> To manage this risk effectively, we adopt the following management practices:

- monitoring water abstraction, usage and discharge

- reviewing site water balances
- ensuring compliance with environmental licences for abstraction and discharge

Our water consumption in FY2019 was 1,452 ML, representing a 15 per cent increase since FY2018. This was due to water consumption at Monty.

Where possible we attempt to reuse and recycle water. We achieve this by recirculating water from our tailings storage facility through the processing plant. Both DeGrussa and Monty conduct dewatering activities of local fractured aquifers to ensure safe mining operations. Water is reused on site for drilling, processing and dust suppression, and any excess water is discharged to ephemeral creek lines under Environmental Protection Act licences.

In FY2019, we discharged 190 ML of water to the environment, well within our licence conditions. We regularly monitor the potential impacts of water withdrawals and discharge. To date, no significant impacts have been identified.

<sup>25</sup> [https://www.sandfire.com.au/site/PDF/2155\\_0/environmentalpolicy](https://www.sandfire.com.au/site/PDF/2155_0/environmentalpolicy)  
<sup>26</sup> DeGrussa and Monty are classified as high risk according to the World Resources Institute Aqueduct Water Risk Atlas



In FY2020, we will develop a Water Management Standard and Water Strategy to ensure uniform management of water and efficient water use across our operations.

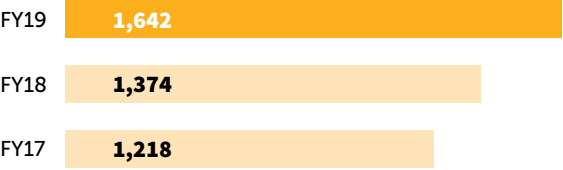


Figure 22 Water withdrawal (ML)

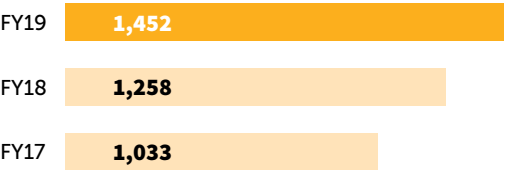


Figure 23 Water consumption (ML)

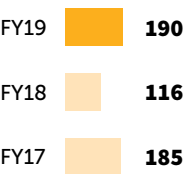


Figure 24 Water discharge (ML)



Waste

We aim to manage waste carefully to mitigate negative impacts on the environment. Our operations generate both mineral waste (tailings, waste rock) and non-mineral waste (chemicals, hydrocarbons, general landfill). Our most significant waste materials are tailings, waste rock and hydrocarbon waste.

Tailings management

Tailings are a slurry like material which consist of finely ground rock, process water and residual reagents. This is the leftover material after the copper concentrate is extracted from ore. Some of the tailings are mixed with a cement binder and used to backfill mined areas underground as a geotechnical ground support method. In FY2019, 63 per cent of tailings produced were reused underground. Tailings material that cannot be reclaimed in this manner is stored in a tailings storage facility (TSF).

The DeGrussa TSF is classed as a Category 1 facility in accordance with DMIRS Code of Practice for Tailings Storage Facilities (2013) and Australian National Committee on Large Dams (ANCOLD)<sup>27</sup> guidelines due its embankment height and medium hazard rating.

The TSF has a downstream design and is located within an Integrated Waste Landform. This is considered to be one of the most stable design options available. Tailings are deposited into a circular impoundment with a composite liner comprising high density polyethylene and compacted clay.

Our TSF is governed in accordance with our Environmental Management System (EMS) standards and operated in line with regulatory requirements. The approved Mine Closure Plan for the DeGrussa Copper Mine includes long-term monitoring of physical, chemical and biological aspects of the TSF post-closure.

Annual independent audits of the TSF are conducted by specialist engineers and are undertaken in accordance with the DMIRS and ANCOLD standards.

The most recent review was completed in December 2018 and found that the DeGrussa TSF was operated and managed in accordance with environmental regulatory approvals.

Further information about Sandfire’s approach to tailings management is available on the Company website.<sup>28</sup>

Waste rock and potentially acid-forming material

As part of the process to extract ore, waste rock is removed from DeGrussa and Monty underground operations and placed into purpose-built engineered waste rock dumps or, when appropriate, used for construction purposes (such as road-base). Sandfire continues to optimise waste generation and return waste rock back to underground operations to stabilise underground workings. Where Potentially Acid Forming (PAF) waste rock is suspected or known to occur, our operations place PAF material in clay lined encapsulation cells within our waste rock dumps, or in separately lined PAF waste rock dumps, and preferentially return it underground as backfill.<sup>27</sup>

Tailings and waste rock data is tracked on a daily basis and data summarised in monthly operations reports. In FY2020 we will develop a company-wide Waste Rock Management Standard to ensure consistent management across all of our operations.



<sup>27</sup> ANCOLD is an incorporated voluntary association of organisations and individual professionals with an interest in dams in Australia.  
<sup>28</sup> [https://www.sandfire.com.au/site/PDF/2400\\_0/sandfiretailingsmanagement](https://www.sandfire.com.au/site/PDF/2400_0/sandfiretailingsmanagement)



Non mineral waste

Waste generation increased in FY2019 with Monty operations moving into production. Expansion of exploration activities also drove an increase in waste generated, particularly plastic waste. Our most significant streams of non-hazardous waste include steel, cardboard, glass, plastic and aluminium. All of these items are recycled. General household waste from our residential camp is diverted to landfill.

Hazardous waste generated by our operations includes oil, tyres, grease, batteries and hydrocarbon contaminated waste. We have systems in place to ensure that all hazardous waste is appropriately managed on site, then transported by waste transport companies to licenced and approved facilities off-site.



Land disturbance and rehabilitation

Sandfire has a combined Australian lease holding of 18,631km<sup>2</sup> covering Western Australia, Queensland, New South Wales and Northern Territory. In FY2019 we significantly increased our exploration portfolio in WA and NSW and regularly consulted with stakeholders to minimise the impact associated with our exploration activities. We aim to protect and preserve areas of ecological or biodiverse importance, prevent land degradation and return disturbed land to a stable and productive condition through progressive rehabilitation.

The impact of our operations varies and we adjust our approach to rehabilitation accordingly. We explore over large areas however impacts are low-risk and consist of tracks, gridlines and drill pads (which are rehabilitated within six months of the completion of the drilling program). On the other hand, our mining activities are confined to a small area but have higher risk activities (such as waste dumps and TSFs) over a longer period of time.

The land use impacts of Sandfire’s operations are managed in accordance with our regulator licences, Environmental Policy, EMS, Biodiversity Management Plan and Biodiversity Standard. In FY2020, we will review and update our Biodiversity and Mine Closure Rehabilitation Standards.

We aim to minimise land disturbance and rehabilitate disturbed areas through a number of methods. These include:

- conducting baseline biodiversity surveys
- exploration and mine planning
- regulatory permitting
- operational controls in line with our environmental management system that include monitoring, training, inspections, and corrective action

- undertaking progressive rehabilitation and monitoring the success of that rehabilitation through Ecosystem Function Analysis programs (at DeGrussa)
- mine closure planning

Progressive rehabilitation involves the staged restoration of disturbed areas. As well as mitigating impacts of disturbance during operations, progressive rehabilitation allows us to collect data that will help to develop appropriate mine closure completion criteria, ultimately supporting responsible mine closure and relinquishment. This is particularly important as our DeGrussa and Monty operations move towards closure.

The DeGrussa and Monty operations utilise a Land Clearance Permit system, where all clearing must be approved by the Environmental Coordinator. This system ensures that all land disturbance is checked against regulatory approvals, soil and vegetation characteristics are recorded, priority plant species are avoided and growth mediums such as topsoil are stockpiled for future rehabilitation.

We measure the effectiveness of our management approach through a program of monitoring including regular ecosystem function analyses on rehabilitated landforms, and mine closure related studies such as long-term erosion monitoring.

In WA, Sandfire had a strong exploration focus and the increased drilling programs resulted in a greater amount of clearing during the reporting period (120.3ha compared with 76.5ha in 2017). Total land disturbed at DeGrussa was 94ha in 2018.<sup>29</sup>

<sup>29</sup> Data collected by calendar year

Chemical free cleaning with Sodexo

In June 2019, DeGrussa’s hospitality and catering contractor Sodexo conducted a chemical free cleaning trial. Sodexo was looking for opportunities to minimise the environmental impact of cleaning and reduce safety hazards to staff. Sandfire was pleased to host the trial, hoping to implement the system across the site pending trial results.

Cleaning chemicals cause a range of harmful impacts and hazards to people and the environment. At DeGrussa, chemicals used for cleaning can impact the efficiency and operation of the waste water treatment plant by killing bacteria that are essential for breaking down and processing organic matter. Staff exposure to these chemicals creates health risks including potential breathing problems, eye irritation and skin rashes. Risks are currently mitigated through the use of personal protective equipment (PPE).

During the trial, Sodexo used an alternative cleaning technology, the Tersano lotus® PRO® to clean the floors in the dining room. The lotus PRO® works by creating Stabilised Aqueous Ozone (SOA) – a cleaning solution that uses only cold water and oxygen. No chemicals from start to finish. To date, the trial has showed encouraging results with no difference to the quality of hygiene.

Over a six month period, it is estimated that the site uses 416L of standard floor cleaning chemicals. This represents a significant opportunity to cut down on hazardous chemicals, reduce our environmental impact and risk to workers. Using the new technology, staff will require less PPE, which will also reduce plastic waste to landfill.







Black Butte Copper

Sandfire holds an 85 per cent interest, via TSX Venture Exchange-listed Sandfire Resources America Inc in the high grade, underground Black Butte Copper project. Black Butte is located 17 miles north of White Sulphur Springs in Montana, USA. Black Butte is one of the top undeveloped copper projects worldwide by grade. Project information about Black Butte can be found at <http://www.sandfireamerica.com/>.

FY2019 saw the completion of the Draft Environmental Impact Statement (EIS). The Draft EIS was prepared by an independent third-party contracted directly with the Montana Department of Environmental Quality (MT DEQ). Following release of the Draft EIS, MT DEQ hosted a 60-day comment period from March – May 2019 with three public meetings as well as two webinars. For an update on progress of the project, please refer to the Annual Report.

Material issues at Black Butte

During the year, we asked project stakeholders in Montana what they considered the most important environmental, social and economic impacts and issues for the Black Butte project. This section provides information on how Sandfire America has addressed these topics.

Some of the most frequently mentioned impacts and issues were:

	Water management
	Land disturbance and reclamation
	Health and safety
	Tailings management
	Skilled worker availability
	Community engagement
	Supporting the economy to adjust (See page 36)



Water management

Sandfire America has been gathering and analysing hydrological baseline information for eight years supporting a robust hydrologic model for the Black Butte project. The project's 78 water monitoring stations include monitoring wells, piezometers, pump test wells, and stream flow and water quality monitoring sites.

The mine portal (the tunnel entry) will be 200 feet above the water level and all mine openings will be located above the water table This prevents water from leaving the mine after closure .

A reverse osmosis water treatment plant will be constructed on site for the duration of the mining operation and will remain there as long as needed. All water not consumed through the milling process will be treated and returned to the groundwater system through an underground alluvial system.

To ensure surface water in Sheep Creek remains constant during production, irrigation rights have been leased further upstream that will be pumped into a mitigation reservoir and directly released back into Sheep Creek throughout the year.

Figure 25 Material issues at Black Butte Copper





### Land disturbance and reclamation

Land disturbance and reclamation are important issues for the local community. Mining requires surface facility infrastructure such as roads, holding ponds, a mill and offices to be built. Black Butte has been designed for a minimal surface disturbance and has succeeded in affecting less than an acre of wetlands. The total MT DEQ approved mine facility surface disturbance is 255 acres with the total area inside the protective wildlife fence being 477 acres.

At the end of mine life, the entire area will be returned to historic ranch use – primarily grazing land for cattle. All roads will be reclaimed, facilities removed, and the tailings facility sealed with another liner, covered with more than four feet of sub soil and then topsoil and grass. The land is privately owned and has no protected habitats or species as identified by the Environmental Protection Agency.

### Health and safety

Sandfire America regards health and safety as its most important concern and one of its fundamental duties as an employer. Sandfire America understands that a good track record with safety is key to gaining the confidence of the community. In FY2019 Sandfire America hired a safety manager and now conducts regular safety meetings and trainings.

The rise of mental health diagnoses, particularly in rural areas, is an issue of high concern across all industries and demographics. Sandfire America acknowledges the need to support workers’ mental health and is alert to opportunities to improve the support structures available to its workers. To start bringing attention to such concerns, Sandfire America has sponsored the Montana Narcotics Officers Association to deliver sessions on drug use at local schools later in 2019.

### Black Butte Cemented Tailings Facility

In keeping with Sandfire America’s commitment to responsible mining, they have designed a Cemented Tailings Facility (CTF) that significantly reduces the risks associated with tailings and will be the first of its kind for medium or large scale mines.

The CTF is designed to withstand a 1 in 10,000 year maximum earthquake as well as a storm that brings 1.25 years’ worth of precipitation in one event. Tailings at Black Butte will be mixed with cement and permanently stored in a double lined tailings facility in a non-flowable state. The facility will be solid and dry to prevent seepage.

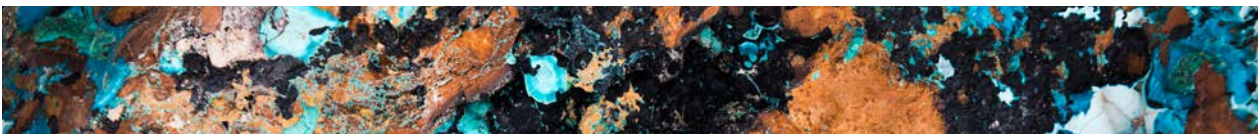
Of the total tailings produced, 45 per cent will be mixed with cement and returned underground to fill the cavities created during the mining process. These ‘paste tails’ are impermeable and impede groundwater flow. The remaining 55 per cent will be stored in the CTF. After mine operations conclude, the CTF will be sealed with a liner, covered with subsoil, topsoil, and seeded back to grass so the area can return to cattle grazing.

### Building skilled worker availability with ABC Fox Montana

In 2019 Sandfire America was approached by ABC Fox Montana to be the premier sponsor of an initiative to support trade industries in Montana. In recent years the State of Montana has seen a decline in trade skills from mechanics and miners, to welders and nursing assistants. In order to boost the local trade scene, Sandfire America’s partnership with ABC Fox Montana will help to establish and promote a dedicated website where job hunters seeking trade roles can see what work is available and the certifications required. The site will provide links directing job seekers to trade schools where these certifications can be obtained.

As a premier sponsor, any local companies in Meagher County with trade jobs available will be able to list under the Sandfire America umbrella and advertise free of charge. As the program gains traction, the aim is to add apprenticeships, work experience and training opportunities to the listings to drive skill acquisition and employability. With ABC Fox Montana’s extensive reach through television and online channels, Sandfire America sees strong potential for the program to make a tangible difference to the local trade scene.

This initiative presents a great opportunity to build skillsets in the community, support local economies and form relationships with trade schools, which will be a key source of skilled workers for Sandfire America’s mining operations and the region more broadly.



### Meagher County Stewardship Council

For a number of years, Sandfire America worked to establish a stakeholder oversight entity to represent the interests of Meagher County and act as a voice for the community related to Black Butte Copper. Following extensive consultation with community members and with the assistance of third party “One Montana”, FY2019 saw the formation of the independent Meagher County Stewardship Council.

The Council, comprising residents, business owners, ranchers and conservationists met for the first time in September 2018. Membership of the Council is predominantly (60 per cent) by citizens of Meagher County, although the group includes specialists in environmental responsibility and community issues from beyond the boundaries of the County.

The Council is characterised by diversity and broad representation of viewpoints. Sandfire America recognises that maintaining their social licence requires them to engage with those who support the operation as well as those with reservations and opposing views. It is vital that all stakeholders are listened to so concerns can be addressed as they arise.

To date, the Council, has focused on community development and environmental oversight issues including water quality and concerns around open pit mining. In late April, Sandfire America signed an agreement with the Stewardship Council for a 25-year prohibition on open pit mining which can be automatically renewed if the mine is still in operation. While Sandfire America’s contracts with private landowners already prohibit open pit mining, this agreement was an important milestone to give the community confidence about Sandfire America’s presence in the region.

Apart from providing financial backing to the Council, Sandfire America works alongside the Council when appropriate and helps ensure it has the resources and support to meet its objectives. Sandfire America is serious about doing the right thing by its stakeholders and considers this development an essential step to meeting the needs of Meagher County.



Appendix 1 – GRI Index

GRI Standard	Disclosure	Reference or response	Omissions	SDGs	Assured (y/n)	Reference (page)
GENERAL DISCLOSURES						
GRI 102: General Disclosures	102-1	Name of the organisation	Our business: Business overview		Y	7
	102-2	Primary brands, products and services	Our business: Business overview		Y	7
	102-3	Location of headquarters	Our business: Business overview		Y	7
	102-4	Location of operations	Our business: Business overview		Y	7
	102-5	Ownership and legal form	Our business: Business overview		Y	7
	102-6	Markets served	Our business: How we create value		Y	9
	102-7	Scale of the organisation	Please see our Financial Report <a href="https://www.sandfire.com.au/site/PDF/2476_0/2019AnnualFinancialReportandAppendix4E">https://www.sandfire.com.au/site/PDF/2476_0/2019AnnualFinancialReportandAppendix4E</a>		Y	40, 58
	102-8	Information on employees and other workers	Year in review		Y	4
	102-9	Supply chain	Our business: Our supply chain		Y	11
	102-10	Significant changes to the organisation and its supply chain	This year Monty Copper-Gold Mine commenced production		Y	7
	102-11	Adoption of the precautionary approach	We apply the precautionary approach in our treatment of climate change risk		Y	26
	102-12	External initiatives	Sandfire supports the intent of AICD 30% club Sandfire's sustainability strategy aims to contribute to the achievement of the UN SDGs	17. Partnerships for the goals	Y	14-15
	102-13	Memberships of associations	Our business: External memberships	17. Partnerships for the goals	Y	11
	102-14	Statement from senior decision maker	Year in review: Chair and CEO address		Y	4-5
	102-16	Values, code of conduct and code of ethics	Our business: Our values		Y	8
	102-18	Governance structure	Our sustainability priorities: How we govern sustainability		Y	16
	102-40	Stakeholder groups engaged	Respect and accountability: Stakeholder engagement and transparency		Y	23
	102-41	Collective bargaining agreements	All employee are employed on individual contracts in line with national Employment Standards. Sandfire has no collective bargaining agreements.		Y	
	102-42	Identifying and selecting stakeholder groups	Respect and accountability: Stakeholder engagement and transparency		Y	23
	102-43	Approach to stakeholder engagement	<a href="https://www.sandfire.com.au/site/sustainability/community">https://www.sandfire.com.au/site/sustainability/community</a>		Y	
	102-44	Key topics and concerns raised	<a href="https://www.sandfire.com.au/site/sustainability/community">https://www.sandfire.com.au/site/sustainability/community</a>		Y	
	102-45	Entities included in the consolidated financial statements	Please see our Financial Report <a href="https://www.sandfire.com.au/site/PDF/2476_0/2019AnnualFinancialReportandAppendix4E">https://www.sandfire.com.au/site/PDF/2476_0/2019AnnualFinancialReportandAppendix4E</a>		Y	69

GRI Standard	Disclosure	Reference or response	Omissions	SDGs	Assured (y/n)	Reference (page)
GENERAL DISCLOSURES						
	102-46	Defining report content and topic boundaries	Our sustainable priorities: Our material issues		Y	18
	102-47	List of material topics	Our sustainable priorities: Our material issues		Y	19
	102-48	Restatements of information	Appendix 3 Data Tables GRI 306-2 Note 1 GRI 404-1 Note 6 MM3 Note 1		Y	67
	102-49	Changes in reporting	Our sustainable priorities: Our FY2019 material issues		Y	18
	102-50	Reporting period	FY2019		Y	
	102-51	Date of most recent previous report	12/10/2018		Y	
	102-52	Reporting cycle	Annual		Y	
	102-53	Contact point for questions	Sustainability@sandfire.com.au		Y	
	102-54	Claims of reporting in accordance with the GRI Standards	About this report		Y	3
	102-55	GRI content index	Appendix 1 GRI Index		Y	60
	102-56	External assurance	About this report		Y	2
MATERIAL TOPICS						
ECONOMIC DEVELOPMENT						
GRI 103: Management Approach	103-1	Explanation of the material topic and its Boundaries	Supporting economic development: Our economic contribution		Y	29-30
	103-2	The management approach and its components	Supporting economic development: Our economic contribution	3. Good health and well-being; 4. Quality education; 8. Decent work and economic growth	Y	29-30
	103-3	Evaluation of the management approach	Supporting economic development: Our economic contribution		Y	29
GRI 201: Economic Performance	201-1	Direct economic value generated and distributed	Supporting economic development: Our economic contribution ii. Please see our Financial Report, p30, 41 for operating costs and payments to providers of capital <a href="https://www.sandfire.com.au/site/PDF/2476_0/2019AnnualFinancialReportandAppendix4E">https://www.sandfire.com.au/site/PDF/2476_0/2019AnnualFinancialReportandAppendix4E</a>	8. Decent work and economic growth	Y	29
GRI 204: Procurement Policies	204-1	Proportion of spending on local supplier	Supporting economic development: Local procurement Our significant location of operation is the DeGrussa Copper Mine in the Midwest Economic region, Western Australia.	8. Decent work and economic growth	Y	30
CLIMATE CHANGE RISK MANAGEMENT						
GRI 103: Management Approach	103-1	Explanation of the material topic and its Boundaries	Respect and accountability: Climate change risk management		Y	26



Appendix 1 – GRI Index

GRI Standard	Disclosure	Reference or response	Omissions	SDGs	Assured (y/n)	Reference (page)
MATERIAL TOPICS						
CLIMATE CHANGE RISK MANAGEMENT						
GRI 201: Economic Performance	103-2	The management approach and its components	Respect and Accountability: Climate change risk governance	13. Climate action	Y	26
	103-3	Evaluation of the management approach	Respect and Accountability: Our climate change risks	13. Climate action	Y	26
	201-2	Financial implications and other risks and opportunities due to climate change	Respect and Accountability: Our climate change risks	13. Climate action	Y	26-27
WATER MANAGEMENT						
GRI 103: Management Approach	103-1	Explanation of the material topic and its Boundaries	Operating responsibly: Water		Y	51
	103-2	The management approach and its components	Operating responsibly: Water		Y	51
	103-3	Evaluation of the management approach	Operating responsibly: Water		Y	51
GRI 303: Water and Effluents	303-3	Water withdrawal	Operating responsibly: Water Appendix 3 Data Tables	6. Clean water and sanitation	Y	52, 67
	303-4	Water discharge	Operating responsibly: Water Appendix 3 Data Tables	6. Clean water and sanitation	Y	52, 67
	303-5	Water consumption	Operating responsibly: Water Appendix 3 Data Tables	6. Clean water and sanitation	Y	52, 67
ENERGY AND EMISSIONS						
GRI 103: Management Approach	103-1	Explanation of the material topic and its Boundaries	Operating responsibly: Energy and emissions		Y	49
	103-2	The management approach and its components	Operating responsibly: Energy and emissions	7. Affordable and clean energy; 9. Industry, innovation and infrastructure; 13. Climate action	Y	49
	103-3	Evaluation of the management approach	Operating responsibly: Energy and emissions	7. Affordable and clean energy; 9. Industry, innovation and infrastructure; 13. Climate action	Y	49
GRI 102: Energy	302-1	Energy consumption within the organisation	Operating responsibly: Energy performance Appendix 3 Data Tables	13. Climate action	Y	49, 67
	302-3	Energy intensity	Operating responsibly: Energy performance Appendix 3 Data Tables	13. Climate action	Y	50, 67
	302-4	Reduction of energy consumption	Operating responsibly: Energy performance Appendix 3 Data Tables		Y	50, 67
GRI 105: Emissions	305-1	Direct (Scope 1) GHG emissions	Operating responsibly: Energy performance Appendix 3 Data Tables		Y	50, 67

GRI Standard	Disclosure	Reference or response	Omissions	SDGs	Assured (y/n)	Reference (page)
MATERIAL TOPICS						
ENERGY AND EMISSIONS						
	305-2	Indirect (Scope 2) GHG emissions	Operating responsibly: Energy performance Appendix 3 Data Tables		Y	50, 67
	305-4	Greenhouse gas (GHG) emissions intensity	Operating responsibly: Energy performance Appendix 3 Data Tables		Y	50, 67
	305-5	Reduction of greenhouse gas (GHG) emissions	Operating responsibly: Energy performance Appendix 3 Data Tables		Y	50, 67
WASTE MANAGEMENT						
GRI 103: Management Approach	103-1	Explanation of the material topic and its Boundaries	Operating Responsibly: Waste		Y	53
	103-2	The management approach and its components	Operating responsibly: Waste		Y	53
	103-3	Evaluation of the management approach	Operating responsibly: Waste		Y	53
GRI 306: Effluents and waste	306-2	Waste type and disposal method	Operating responsibly: Tailings management; Waste rock and potentially acid-forming material; Non mineral waste Appendix 3 Data Tables	12. Responsible consumption and prouction	Y	53-54
	306-3	Significant spills	Appendix 3 Data Tables		Y	67
GRI sector disclosures	MM3	Total amounts of overburden, rock, tailings, and sludges and associated risks	Appendix 3 Data Tables		Y	67
LAND DISTURBANCE AND REHABILITATION						
GRI 103: Management Approach	103-1	Explanation of the material topic and its Boundaries	Operating responsibly: Land disturbance and rehabilitation		Y	55
	103-2	The management approach and its components	Operating responsibly: Land disturbance and rehabilitation	15. Life on land	Y	55
	103-3	Evaluation of the management approach	Operating responsibly: Land disturbance and rehabilitation	15. Life on land	Y	55
GRI sector disclosures	MM1	Amount of land (owned and leased, and managed for production activities or extractice use) disturbed or rehabilitated	Operating responsibly: Land disturbance and rehabilitation Appendix 3 Data Tables		Y	55, 67
PROVIDING OPPORTUNITIES FOR LOCAL COMMUNITIES						
GRI 103: Management Approach	103-1	Explanation of the material topic and its Boundaries	Supporting economic development: Providing opportunities for local communities		Y	30
	103-2	The management approach and its components	Supporting economic development: Local procurement	8. Decent work and economic growth	Y	30



Appendix 1 – GRI Index

GRI Standard	Disclosure	Reference or response	Omissions	SDGs	Assured (y/n)	Reference (page)
MATERIAL TOPICS						
PROVIDING OPPORTUNITIES FOR LOCAL COMMUNITIES						
103-3	Evaluation of the management approach				Y	30
MINE CLOSURE AND OPENING						
GRI 103: Management Approach	103-1	Explanation of the material topic and its Boundaries	Supporting economic development: Supporting communities through the mining lifecycle		Y	35
GRI 103: Management Approach	103-2	The management approach and its components	Supporting economic development: Supporting the community at DeGrussa	8. Decent work and economic growth; 10. Reduced inequalities	Y	35
	103-3	Evaluation of the management approach	Supporting economic development: Supporting the community at DeGrussa		Y	35
GRI sector disclosures	MM10	Number and percentage of operations with closure plans	Supporting economic development: Mine closure governance and reporting For financial provisions for mine closure see Rehabilitation, restoration and dismantling provision (page 53) <a href="https://www.sandfire.com.au/site/PDF/2476_0/2019AnnualFinancialReportandAppendix4E">https://www.sandfire.com.au/site/PDF/2476_0/2019AnnualFinancialReportandAppendix4E</a>		Y	35
ABORIGINAL ENGAGEMENT						
GRI 103: Management Approach	103-1	Explanation of the material topic and its Boundaries	Building a safe and supportive workplace: Aboriginal engagement		Y	46
	103-2	The management approach and its components	Building a safe and supportive workplace: Aboriginal engagement; Promoting employment opportunities		Y	46
	103-3	Evaluation of the management approach	Building a safe and supportive workplace: Aboriginal engagement;		Y	46
SAFETY AND MENTAL HEALTH						
GRI 103: Management Approach	103-1	Explanation of the material topic and its Boundaries	Building a safe and supportive workplace: Safety; health and wellbeing		Y	39, 43
	103-2	The management approach and its components	Building a Safe and Supportive Workplace: Safety; Safety management and governance; health and wellbeing	3. Good health and well-being	Y	39, 41, 43
	103-3	Evaluation of the management approach	Building a safe and supportive workplace: Safety management and governance		Y	41
GRI 403: Occupational Health and Safety	403-9	Work related injuries	Appendix 3 Data Tables		Y	67
	403-10	Work related ill-health	Appendix 3 Data Tables		Y	67
DIVRSITY AND INCLUSION						
GRI 103: Management approach	103-1	Explanation of the material topic and its Boundaries	Building a safe and supportive workplace: Diversity and inclusion		Y	45

GRI Standard	Disclosure	Reference or response	Omissions	SDGs	Assured (y/n)	Reference (page)
MATERIAL TOPICS						
DIVRSITY AND INCLUSION						
103-2	The management approach and its components	Building a safe and supportive workplace: Diversity and inclusion		5. Gender equality	Y	45
103-3	Evaluation of the management approach	Building a safe and supportive workplace: Diversity and inclusion			Y	45
GRI 405: Diversity and Equal Opportunity	405-1	Diversity of governance bodies and employees	Appendix 3 Data tables	5. Gender equality	Y	67
GRI 406: Non-discrimination	406-1	Incidents of discrimination and corrective actions taken	Appendix 3 Data tables	5. Gender equality	Y	67
ETHICS AND CULTURE						
GRI 103: Management approach	103-1	Explanation of the material topic and its Boundaries	Respect and accountability: Ethics and culture		Y	21
	103-2	The management approach and its components	Respect and accountability: Our code of conduct; Values workshops	16. Peace, justice and strong institutions	Y	21-22
	103-3	Evaluation of the management approach	Respect and accountability: Ethics and culture		Y	21
STAKEHOLDER ENGAGEMENT AND TRANSPARENCY						
GRI 103: Management approach	103-1	Explanation of the material topic and its Boundaries	Respect and accountability: Stakeholder engagement and transparency		Y	23
	103-2	The management approach and its components	Respect and accountability: Stakeholder engagement and transparency	11. Sustainable cities and communities	Y	24
	103-3	Evaluation of the management approach	Respect and accountability: Stakeholder engagement and transparency		Y	24
HUMAN RIGHTS IN THE SUPPLY CHAIN						
GRI 103: Management approach	103-1	Explanation of the material topic and its Boundaries	Respect and accountability: Respecting human rights		Y	25
	103-2	The management approach and its components	Respect and accountability: Respecting human rights	16. Peace, justice and strong institutions	Y	25
	103-3	Evaluation of the management approach	Respect and accountability: Respecting human rights		Y	25
Company specific metric		Sandfire Modern Slavery Statement	View our Modern Slavery statement at <a href="https://www.sandfire.com.au/site/PDF/2532_0/modernslaverystatement">https://www.sandfire.com.au/site/PDF/2532_0/modernslaverystatement</a>		Y	



Appendix 2 – Glossary

Term	Definition
Greater Perth	Greater Perth is the statistical area of Perth’s Greater Capital City. This statistical area extends along Western Australia’s coastline from Two Rocks to Coolup and extending inland to Wooroloo.
Group Management Team (GMT)	Comprised of the following members; Chief Executive Officer, Chief Operating Officer, Chief Financial Officer, Chief Commercial Officer and Chief Exploration and Business Development Officer
Human rights	The human rights most relevant for our operations are related to workplace safety, labour conditions, and the rights of Native Title Groups and communities where we have an impact.
Integrated waste landform (IWL)	The waste rock dump and the tailing storage facility are one facility known as an integrated waste landform. The waste rock dump surrounds the tailings storage facility.
Lost time injury (LTI)	An injury which results in the person being declared (by a medical practitioner) as being unfit to perform their normal duties for a shift, after the shift in which the injuries were sustained.
Lost time injury frequency rate (LTIFR)	The total number of lost time injuries (for the 12 month period/ total hours worked for the 12 month period) multiplied by 1,000,000 hours.
Midwest economic region	The Midwest economic region spans around 478,000 square kilometres across the centre of Western Australia from Green Head to Kalbarri and over 800km inland to Wiluna in the Gibson Desert.
Modern slavery	Modern slavery includes serious human exploitation such as human trafficking, slavery, servitude, forced marriage, forced labour, debt bondage, the worst forms of child labour, and deceptive recruiting for labour or services
Native title	The communal, group or individual rights and interests of Aboriginal peoples and Torres Strait Islanders in relation to land and waters, possessed under traditional law and custom, by which those people have a connection with an area which is recognised under Australian law (s 223 NTA).
Native title claim group	Indigenous party who have made an application for the legal recognition of native title rights and interests held by Indigenous Australians
Native title determination group	Indigenous party whose right to native title has been established by an Australian court or other recognised body.
Potentially acid forming (PAF)	A characterisation of waste rock that has the potential to be acid forming.
Principal hazard	Principal hazards are potential fatality risks.
Recordable injury	The combination of fatalities, lost time injuries, restricted work injuries and medically treated injuries.
Significant near miss	An unplanned event that did not result in significant injury, illness or damage, but had the potential to do so. Significant is defined as having an actual or potential risk rating of > 18 in Sandfire’s Risk Matrix.
Tailings	Tailings are finely ground rock and mineral waste products of mineral processing operations.
Tailings storage facility (TSF)	Purpose built retaining embankment to store tailings for the life of mine.
Total recordable injury frequency rate (TRIFR)	The total number of recordable injuries (for the 12 month period/ total hours worked for the 12 month period) multiplied by 1,000,000 hours
UN Guiding Principles	The United Nations Guiding Principles are a set of guidelines for States and companies to prevent, address and remedy human rights abuses committed in business operations.
Waste Rock	Waste rock is material that contains minerals in concentrations considered too low to be extracted at a profit
Whistleblower	A whistleblower is someone who discloses reportable conduct to people that have the power to take corrective action.

Appendix 3 – Data Tables

Please see our website for Data Tables appendix

[https://www.sandfire.com.au/site/PDF/2534\\_0/fy2019datatablesfinal](https://www.sandfire.com.au/site/PDF/2534_0/fy2019datatablesfinal)



## INDEPENDENT ASSURANCE STATEMENT

To: The Stakeholders of Sandfire Resources NL



### Introduction and objectives of work

Bureau Veritas Australia Pty Ltd ("Bureau Veritas") was engaged by Sandfire Resources NL ("Sandfire") to provide independent limited assurance of its FY2019 Sustainability Report ("the Report"). This Assurance Statement applies to the related information included within the scope of assurance described below.

This information and its presentation in the Report are the sole responsibility of the management of Sandfire. Bureau Veritas was not involved in the drafting of the Report. Our sole responsibility was to provide independent assurance of the accuracy of information included. This is the third year in which we have provided limited assurance over the Sandfire Sustainability Report.

### Scope of Assurance

Sandfire requested Bureau Veritas to verify the accuracy and assure the material disclosures, both qualitative and quantitative, presented in the Report. The Report was prepared in accordance with the GRI Standards Core option and selected material topics from the Mining and Metals Sector Disclosures from GRI G4. The complete list of assured elements is referred to within the GRI Content Index of the Report.

The scope of work was limited to the data related to the operations of DeGrussa and Monty Copper-Gold Mines in Western Australia, exploration activities and offices in Australia, available from the Perth Corporate Head Office, for the period of 1<sup>st</sup> July 2018 to 30<sup>th</sup> June 2019.

### Methodology

As part of its independent limited assurance, Bureau Veritas undertook the following activities:

- Interviews and follow-up communication with relevant personnel;
- Review of documentary evidence produced by Sandfire representatives;
- Audit of performance data and factual information including source verification; and
- Review of Sandfire's processes for identification, aggregation and analysis of relevant information, report content and performance data.

Our work was planned and executed in a manner designed to produce a limited level of assurance and to provide a sound basis for our conclusions.

Our assurance process is aligned with and informed by Bureau Veritas' standard procedures and guidelines for external verification of sustainability reports, GRI Standards, GRI G4 "Mining and Metals Sector" Disclosures and the International Standard for Assurance Engagements (ISAE) 3000.

### Our findings

On the basis of our methodology and the activities described above, we provide limited assurance that:

- Nothing has come to our attention to indicate that the reviewed statements within the scope of our verification are inaccurate and the information included therein is not fairly stated; and
- It is our opinion that Sandfire has established systems for the collection, aggregation and analysis of relevant information and quantitative data.



BUREAU  
VERITAS

Move Forward with Confidence



### Evaluation against the Global Reporting Initiative Standards (GRI Standards)

The Report was prepared in accordance with the GRI Standards Core option and the GRI G4 "Mining and Metals Sector" Disclosures, including appropriate consideration of the reporting principles, profile disclosures, management approach disclosures and performance indicators.

Bureau Veritas' evaluation of the Report included cross checking the GRI Content Index against all the reference documents.

### Limitations and Exclusions

Excluded from the scope of our work is any assurance of information relating to:

- Activities outside the defined reporting period;
- Statements of commitment to, or intention to undertake future actions by Sandfire;
- Statements of position, opinion, belief and/or aspiration by Sandfire;
- Financial data audited by an external third party; and
- Other sites and activities not included in the scope.

This independent assurance statement should not be relied upon to detect all errors, omissions or misstatements that may exist within the Report.

### Statement of independence, impartiality and competence

Bureau Veritas is an independent professional services company that specialises in Quality, Health, Safety, Social and Environmental management with almost 200 years history in providing independent assurance services.

Bureau Veritas has implemented a Code of Ethics across the business to maintain high ethical standards among staff in their day to day business activities. We are particularly vigilant in the prevention of conflicts of interest.

No member of the assurance team has a business relationship with Sandfire, its Directors or Managers beyond that required of this assignment. We have conducted this assurance independently, and there has been no conflict of interest.

The independent assurance team has extensive experience in conducting assurance over environmental, social, security, safety, health and ethical information, systems and processes, and through its combined experience in this field, an excellent understanding of Bureau Veritas standard methodology for the Assurance of Sustainability Reports.

Bureau Veritas Australia Pty Ltd  
24<sup>th</sup> September 2019

Jeremy Leu  
General Manager – Certification, Sustainability, Building & Infrastructure



BUREAU  
VERITAS

Move Forward with Confidence



BUREAU  
VERITAS





## **SANDFIRE RESOURCES NL**

Level 2, 10 Kings Park Road, West Perth WA 6005 T: +61 8 6430 3800 F: +61 8 6430 3849 E: [admin@sandfire.com.au](mailto:admin@sandfire.com.au)