



Sustainability Report 2016

Creating a leading **diversified**  
mining company



sustaining our future  
managing the impact of our growth

LO OPERA  
ALLAN



Independence Group NL (IGO) is an ASX-listed diversified, mining and exploration company that is currently producing gold, nickel, copper, zinc and silver from three mining operations in Western Australia. IGO's world-class Nova Project will commence production in December 2016.

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Statistics related to hours worked as presented in this report include both permanent full-time and part-time Independence Group NL (IGO) employees and contractors. AngloGold Ashanti Australia Ltd (AngloGold Ashanti) report on a calendar year, and consequently some of the reported figures for the Tropicana Gold Mine, as noted in the text, are for the 2015 calendar year. All monetary amounts are in Australian dollars. Dollar amounts presented in this report are approximate and the reader is directed to IGO's 2016 Annual Report for further information. Quantitative parameters referred to in this report are summarised in the appendices. All numbers highlighted in the report's data dots relate to FY16. For supporting explanations and references please refer to the appendices.

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## JOINT MESSAGE FROM THE CHAIRMAN AND CEO

At Independence Group NL (IGO) we are intent on building a leading mid-tier diversified mining company that delivers superior returns for all our stakeholders. Within this context it is our great pleasure to present this, our second Sustainability Report, for the financial year ending 30 June 2016 (FY16).

The sustainability of our business depends on many factors: growth; leadership; maintaining a licence to operate; and continual improvement, to name a few.

The most important strategic factor is our access to new resources. In September 2015 IGO acquired Sirius Resources NL (Sirius) and continues to develop the world-class Nova Project.

In the last twelve months, Nova's construction has progressed to plan and we remain confident that we will produce first concentrate in December 2016. Nova significantly increases the size of our business and, importantly, positions IGO to reap the rewards of the inevitable rebound in the nickel and copper markets.

The integration of Sirius into IGO has been entirely successful. With the benefit of careful planning, the process was completed in less than three months. Today, we have people working at the Nova Project who have transferred from our Jaguar and Long operations, and from our corporate office. Similarly, people from Sirius have now successfully moved in to key positions across the IGO business.

Beyond the success of Nova, we are also pleased to report good production results from our 30% joint venture interest in the AngloGold Ashanti-operated Tropicana Gold Mine, as well as both Long and Jaguar.

IGO continues to improve its business through a steadfast focus on leadership. We expect our people to deliver on promise, however we also expect that this is done in accordance with IGO's values. We act in the belief that leaders, and in particular our front-line leaders, define our business culture and drive our business performance. For example, IGO's Visible Safety Leadership program is, as the name suggests, a program based on our leaders being seen to 'walk the talk' as well as being mindful of how others experience their leadership style.

As we have publicly stated previously, the success of each element of our business has been, and continues to be, dependent on the support and input of our stakeholders, of which there are many. IGO stakeholders include our shareholders, our staff and contractors, our regulators, our host communities, our Traditional Owners and the public in general. One way or another, each affects our capacity and licence to operate. In turn, IGO demonstrably operates in a manner that creates economic benefit, not just for our shareholders, but also for the broader community, while limiting our environmental impacts.

In this reporting period, IGO has also improved a broad range of business processes related to governance, occupational health and safety, environmental management, community engagement and Traditional Owner participation. Importantly, IGO has established a set of universal safety standards that define our minimum requirements for both processes (i.e. the way in which we go about our work) and our outcome expectations (i.e. expectations that go beyond simple statutory compliance).



\$232.6M

invested in  
growth

Invariably, mining and exploration processes have both environmental and social impacts. In the face of this reality, we at IGO are committed to understanding these impacts and working with our stakeholders to find solutions or mitigating measures. We actively engage with our joint venture partners and the communities which host our operations. We have continued to develop and implement a high level of community engagement and environmental standards. For example, IGO is very proud to have established a Corporate Giving Standard that defines a percentage of revenue that we will make available for charitable purposes in our host communities. We are also proud to have established an Aboriginal Employment and Business Standard that has resulted in the employment of an increasing number of Aboriginal people and the engagement of an increasing number of businesses owned by Aboriginal people.

All this activity has generated positive results but there is still much to be done. IGO is pleased to note that we completed another year without any significant environmental incidents. However, the past financial year saw IGO experience three serious injuries where each injured person lost more than 10 work days in recuperation. Additionally, we continue to see high numbers of potentially serious incidents; the type of near-misses where someone could have been killed or seriously injured. Safety management is a priority at IGO and we will steadfastly complete our various improvement programs to drive improved results.

All mines have a finite life. The life span is dependent on the available resource, the cost of production and commodity prices. Consequently, IGO is focused not just on the day-to-day safe and cost-effective delivery of product from our existing mines, but also the development and maintenance of a 'pipeline' of new projects while also planning for mine closure. IGO continues to work on our exploration projects, which focus on near-mine targets and regional exploration designed to discover the mines of the future. We will continue to consider new growth opportunities targeting gold and base metal projects that have scale, high-margin,

long-life potential and are located in low-risk mining jurisdictions. In the mid term these opportunities may take the form of further acquisitions while in the longer term we will continue to strive for organic growth through exploration.

In the last twelve months we have achieved much. We have been consistent in our financial performance. We have achieved this while also improving the capacity and effectiveness of our team and our business processes. These tasks lie at the heart of the ongoing challenge to continuously improve the sustainability of our business in the coming three to five years.

In this, our second Sustainability Report, we have sought to be consistent in the report's structure to enable a comparative review of our performance. Again, we present our key activities and our material impacts, both positive and negative. We have sought to contextualise our activities with regard to the wider industry, the environmental settings in which we operate, and the communities of which we are a part. It is our intention to be transparent in both our objectives and the means by which they are delivered. This report provides a complete overview of the significant non-financial aspects of our business to enable our stakeholders to more broadly assess IGO's performance during the year ended 30 June 2016. This report makes comparison to our performance in 2015, and provides a benchmark against which we can measure our continuous improvement in the future.

We encourage and welcome your feedback on this report and on our environment, safety and governance performance in general.

Peter Bilbe  
Chairman

Peter Bradford  
Chief Executive Officer  
and Managing Director



producing a quality product  
developing high-margin assets

7.2Mt  
ore processed from  
our operations



# ABOUT IGO

## WHO WE ARE

Established as an Australian gold exploration and mining company in 2000, IGO has grown to be a significant mid-cap mining and exploration company producing gold, nickel, copper, zinc and silver from three mining operations in Western Australia. Our growth continues. In December 2016 we will commence production at our new flagship mine, the Nova Project. This will more than double IGO's output over the next two years.

We continue to grow our business based on the central strategy of maintaining an asset portfolio that gives shareholders exposure to a diversity of high-margin mineral resources. However, long-term success requires more than world-class assets. It is achieved by highly skilled and motivated people, continuous improvements, uniform processes, high standards of ethical conduct, responsible environmental and safety management, and strong community partnerships.

## WORKING TOGETHER

"We've all got to contribute to make a team work. Each of us has to do our bit and look out for each other. It's all about respect."

Ross Jennings  
Manager, Occupational Health and Safety, Nova Project

# VISION, MISSION AND VALUES

## OUR VISION

To create long-term shareholder value through discovery, acquisition, development and operation of high-margin long-life mining projects diversified by commodity and geography.

## OUR MISSION

Our Mission is to:

- engage our people by developing their capabilities, and recognising their contributions to our future
- encourage innovation to drive efficiency
- achieve sustainable growth through high returns from diverse assets
- create a strong sense of purpose by fostering a culture of ownership across the business.

## OUR VALUES

Our people are expected to model the IGO values:



### Sustainability

Putting health and safety first, being environmentally responsible, and supporting our communities.



### Accountability

Taking ownership for what we do and responsibility for others.



### Integrity

Doing what is right and doing what we say we will do.



### Diligence

Careful and persistent effort.



### Teamwork

Working together to achieve shared goals.



### Respect

Valuing the views of others and accepting people for who they are.

## TAKING OWNERSHIP FOR WHAT WE DO

"I think it is good to celebrate success. The other side of the coin is to acknowledge and work to fix things that don't work out as intended."

Ting Xu  
Accountant, Corporate





building our organisation  
supporting our values



## OUR CODE OF CONDUCT

The IGO Code of Conduct applies to everyone who works for, or on behalf of, IGO. Our Code of Conduct is more than a statement of our expectations; it reflects the values that have served the business well from its inception. It is communicated to all of our people and to those we do business with. Our people, contractors and directors are all expected to behave in accordance with this Code.



IGO's Code of Conduct provides guidance on how our values are to be put into practice. The key elements are summarised below:

- IGO is committed to providing a safe, fair, and dynamic work environment.
- IGO is committed to providing a workplace free of harassment, hostility and offensive behaviour.
- We strive for diversity and inclusion in the workplace in terms of gender, age, cultural and ethnic background, religion, sexual orientation and physical ability.
- We work to provide our people with access to the information and knowledge they need to perform well.
- We encourage open and honest expression and facilitate participation.
- We are committed to providing learning and developmental opportunities consistent with the needs of the business.
- We are committed to providing a work environment that protects whistleblowers who, in good faith, report unacceptable conduct.
- We celebrate the success of our business and our people.
- We respect the law and act accordingly.
- We are fair and honest in our dealings.
- We use IGO's property responsibly.

Our people have reciprocal duties to our business and to each other and we expect them to be accountable for both their actions and consequences. We treat each other and our external stakeholders with respect and dignity.

IGO's Code of Conduct is publicly available at IGO's website: [www.igo.com.au](http://www.igo.com.au).

## GOVERNANCE

The IGO Board is supported by four committees:

- Remuneration Committee
- Audit Committee
- Sustainability and Risk Committee
- Nomination Committee

Each has a defined charter (refer to the IGO website: [www.igo.com.au](http://www.igo.com.au)).

Responsibility for our strategic approach to sustainability lies with IGO's Board and Executive Committee. The Board's Sustainability and Risk Committee has oversight responsibilities for safety, health, environment, community and risk management.

Sustainability-related initiatives, performance against key performance indicators (KPIs), and issues relating to operations and stakeholders are brought to the attention of the Sustainability and Risk Committee through quarterly meetings. Additionally, environment, health, safety and community matters are routinely reported to the Board.

Responsibility for IGO's business processes and sustainability performance lies with the Managing Director and Chief Executive Officer, Mr Peter Bradford, and IGO's Executive Committee. The Board and Executive Committee structure is shown in Figure 1 below.

The Managing Director and Chief Executive Officer's performance is measured against metrics relating to financial and operational performance, the execution of our growth strategy, and the sustainability of our performance. Comparable and related remuneration arrangements including incentive payments are variously applied to all IGO employees. In FY16 IGO introduced a revised set of remuneration and performance standards that transparently define how both IGO's short-term and long-term incentive schemes work for all levels of the organisation.

All IGO employees are accountable for contributing to the creation of value and enhancing our sustainability within their particular area of responsibility.

For further information on IGO's governance, refer to the 2016 Corporate Governance Statement and the Governance section of the IGO website: [www.igo.com.au](http://www.igo.com.au).



Independence Group NL is a company listed on the Australian Securities Exchange (ASX:IGO). The Company has been listed on the ASX since 17 January 2002, having traded as Independence Gold NL from 17 January 2002 to 19 December 2003.

Figure 1

### ORGANISATIONAL STRUCTURE





consistently applying our values  
building on our knowledge and experience

# APPROACH TO SUSTAINABILITY

To deliver our vision, we focus on both the sustainability of our business and the manner in which we do business. By consistently applying our values, we are endeavouring to create an organisation that generates superior returns for our investors and improves the socio-economic conditions of the areas in which we operate, while eliminating or mitigating any negative impacts.

Our starting point is our adherence to the International Council on Mining and Metals (ICMM) Sustainable Development Principles (refer to [www.icmm.com](http://www.icmm.com)).

## CAREFUL AND PERSISTENT EFFORT

"Our team has achieved a lot. This is because people take pride in what they do. They think about it and stick at it."

Roger Loader  
Supervisor Mechanical, Nova Project





## CONTINUAL IMPROVEMENT

Creating a sustainable business takes time. The focus in our initial years of operation has been on the financial and technical performance of our business. However, in the last two years, IGO has placed a particular emphasis on improving our sustainability – something that will be achieved, in part, through continual improvement in everything we do. In last year's report we presented a developmental pathway to illustrate both the scale of the task and our location on the journey. Figure 2 represents this model (a four-phase pathway to sustainable development) and shows IGO's progress. It remains IGO's aspiration that our ongoing effort will culminate in our organisation embracing full and open accountability for the economic, social and environmental aspects of our business activities while operating in accordance with our Code of Conduct.

It is the assessment of IGO's Executive Committee that we are currently positioned between phases 2 and 3 on IGO's pathway (refer to Figure 2) to sustainable development, having made important incremental improvements in FY16. IGO's Executive Committee is committed to making key business decisions in full consideration of their social, environmental and inter-generational consequences.

As part of this ongoing process, three improvements are particularly noteworthy:

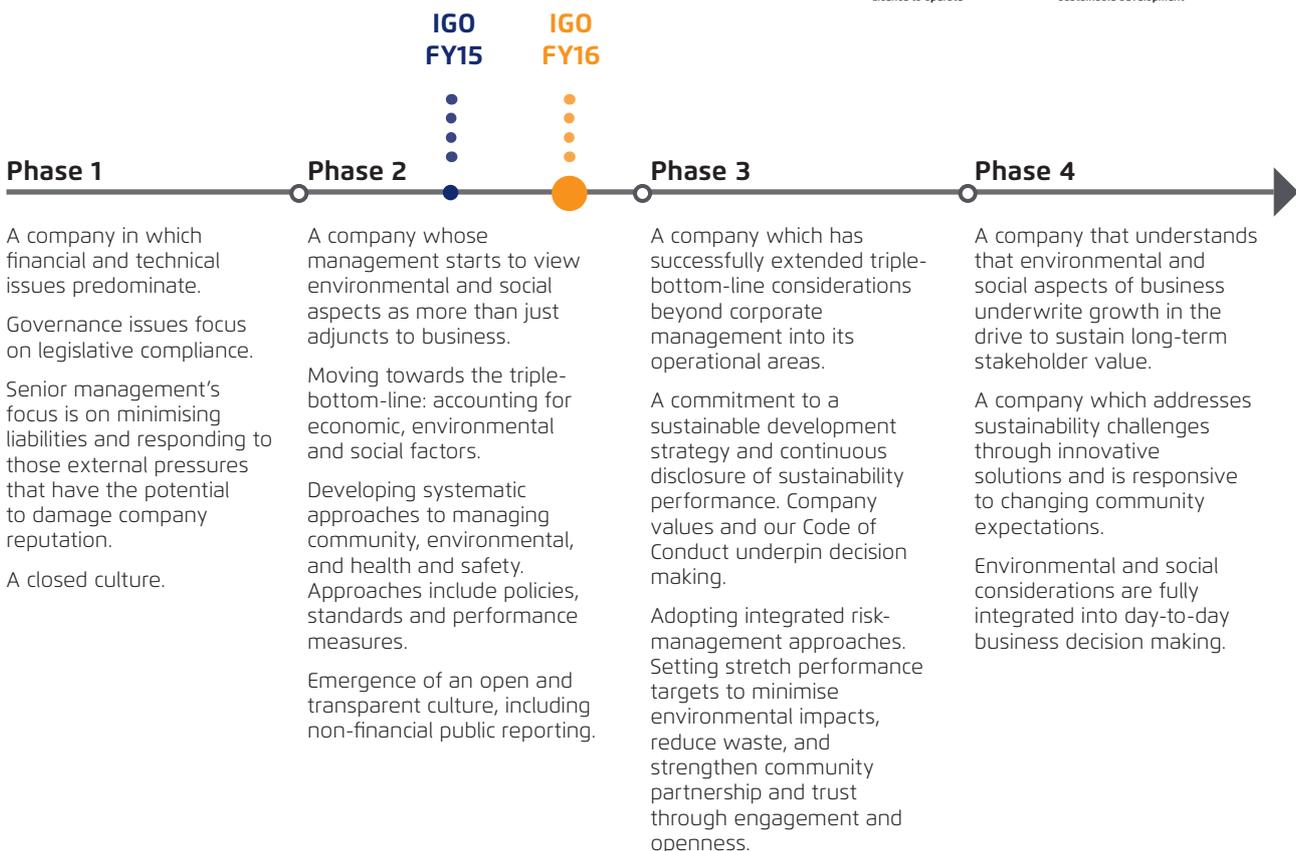
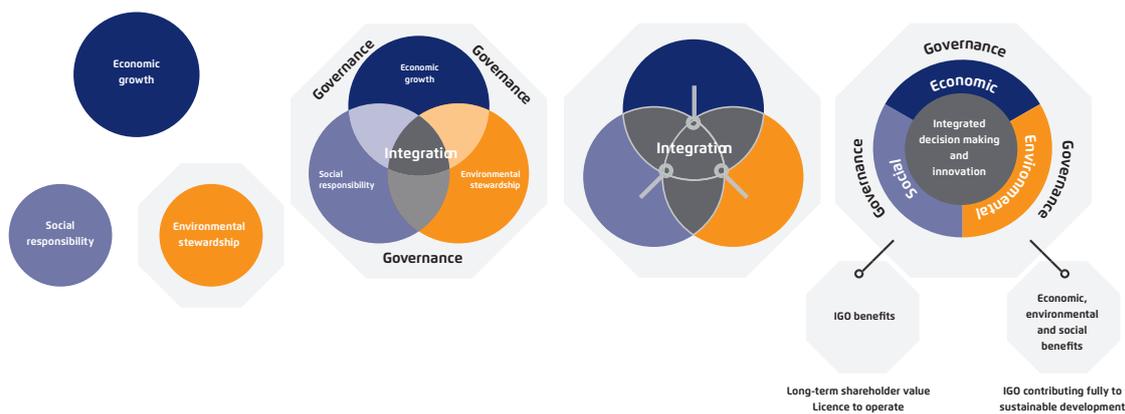
- IGO has established a set of Group Safety Standards that address the most significant safety and process risks faced by our people and the business generally. These standards form part of IGO's greater documented Management System and define the minimum requirements imposed on all parts of the business. At present, IGO is completing an ongoing gap analysis process to identify what elements of our business currently are non-compliant with these standards. Thereafter IGO will establish improvement plans where required.
- IGO has established a centralised, strategic purchasing and contractor management function under the direction of a Group Manager – Procurement and Commercial. Previously, strategic purchasing and contractor management occurred at a site level. Given the significant growth in our business, and the associated increase in the number and value of IGO's contracts, the centralised control of contracts and strategic procurement better enables effective governance, cost control and risk management. The change specifically enables the more effective application and monitoring of contractors' adherence to our policies and standards; (e.g. in the areas of occupational health and safety and the preferential employment of Aboriginal people). In FY17, IGO will continue to pursue further improvements.
- IGO has established a Group Internal Audit function directed by IGO's Sustainability team. We have commenced internal audits of our business functions and processes that are deemed to be of high risk to IGO as determined by IGO's Executive Committee. The audits have and will continue to be completed by third-party auditors, and material matters will be presented to the Sustainability and Risk Committee.

Improving performance is more than just improving systems, it is about the behaviour of individuals and the culture of the organisation. Again, IGO has made a range of improvements in this space and we discuss various examples later in this report. In summary, the sustainability of our business as a whole requires managing and measuring performance at a business level, within both operations and projects, as well as the performance of individual employees and contractors. To this end, IGO uses KPIs relevant to both operations and individuals. These KPIs are frequently reviewed and modified to focus and concentrate our efforts on the desired outcomes.



FIGURE 2

IGO'S PATHWAY TO SUSTAINABLE DEVELOPMENT





## SAFETY CASE STUDY:

### EMERGENCY RESPONSE AND NOVA'S LOCAL COMMUNITY

With the completion of the Nova Project's airstrip earlier this year, and as part of the regulatory requirements under the Civil Aviation Safety Authority (CASA), the Nova team completed a large-scale emergency response drill based on an aircraft crash scenario on Nova's airstrip in May 2016.

The exercise included Nova's emergency response personnel and crisis management team, IGO's corporate crisis management team, and multiple external agencies (including St John Ambulance personnel from Esperance, Norseman and Salmon Gums, State Emergency Service personnel from Norseman, and Western Australian Police from Norseman).

"It was great to see how quickly the emergency response team mobilised, whilst giving everyone involved a real sense of the challenge faced when responding to a large-scale emergency in a relatively remote part of the state."

– Alex Elkerton, Emergency Coordinator, Nova Project.

Given the scale of the exercise and the test of interoperability with government and volunteer agencies from the local communities, the exercise was a resounding success. As is always the case, the exercise identified many opportunities for improvement for the parties involved. Just as importantly, the exercise forged great relationships between the participating teams. Perhaps most importantly, the exercise gave all involved a better understanding of emergency response capabilities in the region and reinforced the understanding that the parties can call upon each other if and when the need arises.





**7.5Mtpa**

expanded Tropicana  
plant capacity

It is anticipated that the scope and sophistication of our reporting will grow and improve in proportion to the size of our business and with regard to the environment in which we operate.

## ABOUT THIS REPORT

This is IGO's second Sustainability Report. It addresses IGO's sustainability performance for the financial year ending 30 June 2016 (FY16). This report covers all the activities for IGO and its related entities, including the Tropicana Gold Mine, Long nickel mine (known as the Long Operation), Jaguar zinc-copper mine (known as the Jaguar Operation), the near-production Nova nickel-copper mine (known as the Nova Project), the pre-production Stockman Project, and our various exploration activities including joint ventures.

IGO is a 30% owner of the Tropicana Gold Mine. AngloGold Ashanti Australia Ltd (AngloGold Ashanti) is the majority owner in this joint venture and manages all aspects of the mine. This report addresses only those limited aspects that are deemed material to IGO and our stakeholders. For additional information refer to AngloGold Ashanti's assessment of the sustainability of their broader activities (refer to [www.anglogoldashanti.com/en/sus](http://www.anglogoldashanti.com/en/sus)).

It is anticipated that the scope and sophistication of our reporting will grow and improve in proportion to the size of our business and with regard to the environment in which we operate. While it is appropriate that our Sustainability Report evolves, it is also our explicit intention that the structure and nature of the content is materially similar from one year to the next to better enable our stakeholders to analyse changes in IGO's performance, and therefore make relative comparisons to other organisations.

Our 2016 Sustainability Report has been prepared in general accordance with the Global Reporting Initiative (GRI) G4 Sustainability Reporting Guidelines. These guidelines have been applied only in so far as they are appropriate to the size of our organisation and the nature and location of our activities. While we have focused on G4 'Core' indicators, we have also included some additional indicators where they refer to a material aspect of our business. We have also reported against some metrics described in the GRI G3.1 Mining and Metals Sector Supplement as they are of interest to our stakeholders. Our methodology in determining what is included in this report is addressed in Stakeholders and Materiality (refer to page 16).

To aid the cross-referencing of this report's discussions on IGO's material aspects to elements of the GRI G4 Sustainability Reporting Guidelines, a separate GRI Content Index has been prepared (refer to the appendix on page 88).

There are clearly merits to producing a single integrated annual report incorporating both financial and sustainability reports. However, as Australian Federal law currently requires annual reports to be posted as hard-copies to shareholders who request them, the cost of postage and printing is cost prohibitive and precludes IGO from this option. Until such requirements change, it is IGO's intention to produce an annual stand-alone Sustainability Report.

## INFORMATION INTEGRITY AND REPORT AUDIT

As foreshadowed last year, this report has not been subject to an independent third-party review. However, as our data collection systems mature, it is IGO's intention to progressively introduce this. IGO seeks to gather, record, compile, analyse, and disclose information and processes used in the preparation of its sustainability reports in a way that is readily subject to examination and that establishes the quality and materiality of the information. At present, IGO completes assurance reporting on our National Pollutant Inventory (NPI) and greenhouse gas (GHG) emissions as part of our submission to the Australian Government's National Greenhouse and Energy Reporting Scheme (NGERS). Internal audit is completed on IGO's behalf by Assurance Advisory Services (ABN 93 604 951 993) and IGO engages other specialist providers for technical audits.

Subject to the outcome of the data management review process in late 2016, IGO's FY17 Sustainability Report will be subject to limited assurance provided by BDO Australia Pty Ltd (ACN 133 657 833).



139koz  
gold produced from  
our operations

## STAKEHOLDERS AND MATERIALITY

This section addresses matters that are material to assessing the sustainability of our performance. We have identified these issues based on a range of considerations. They include both socio-economic and environmental risks and opportunities with the potential to have a significant negative or positive impact on our business and our stakeholders.

Clearly, central to this assessment are the views of our stakeholders. We have identified our stakeholders and have sought to understand the matters of interest and/or concern to them. This process included reviewing:

- community feedback from individual groups and 'town hall' meetings
- significant events during the year that related to both IGO specifically and the industry in general
- current public IGO commitments and obligations
- supplier and customer stakeholder research
- analyst and media calls as part of the financial report cycle
- approaches from industry watch groups
- peer company reports, daily media monitoring and workforce feedback
- international sustainability reporting initiatives and sustainability topics raised by key stakeholders, including government and local communities.

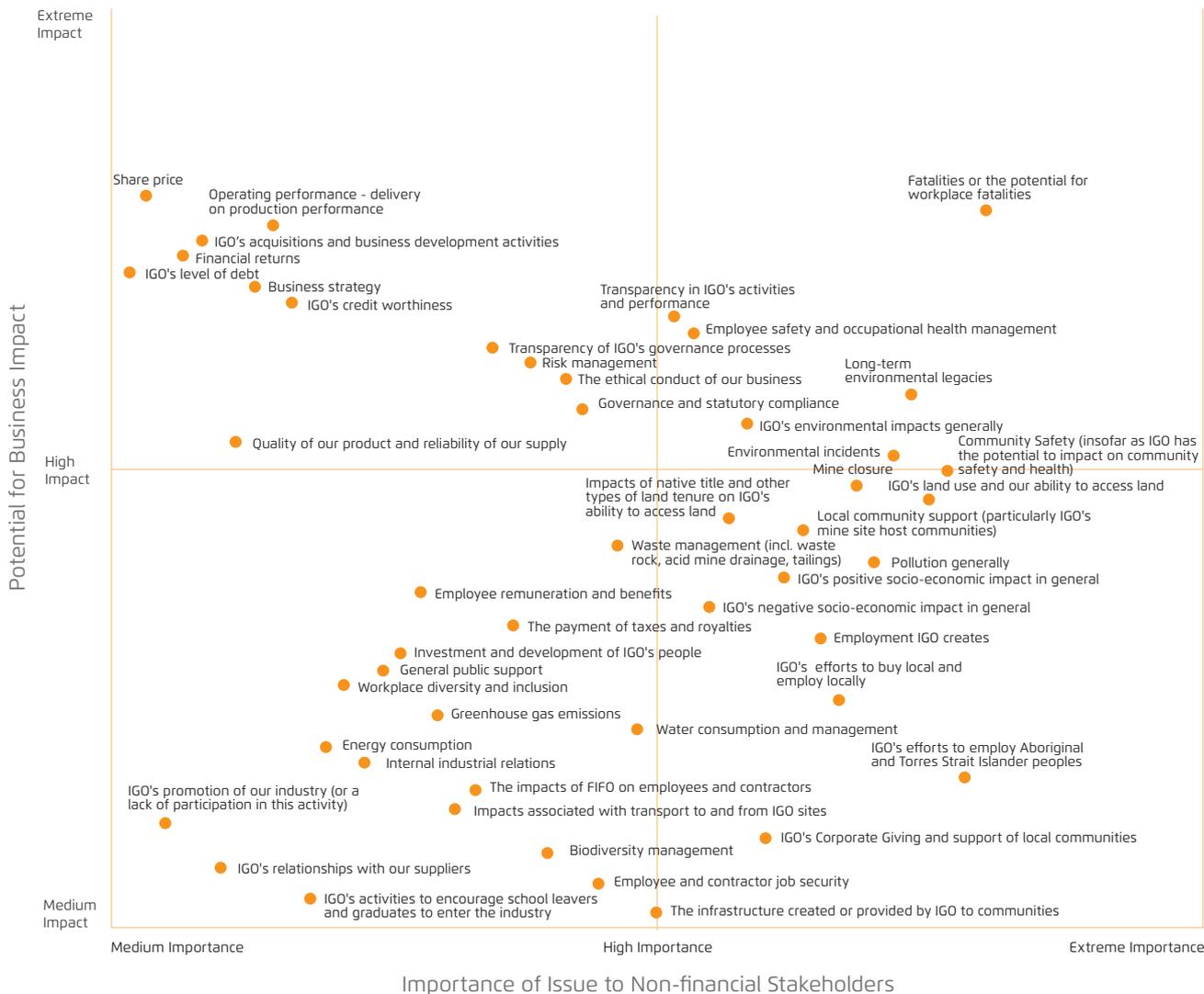
The materiality assessment process identified 48 material issues. Following the ranking process, the issues were plotted according to their potential business impact and importance to stakeholders (refer to Figure 3). The IGO Executive Committee and the Board reviewed and approved the ranking of the material issues listed. In turn, this list has informed the structure and content of this report.

It should be noted that IGO's process for ranking material issues has changed from last year. This year we have focused on materiality from the perspective of non-financial stakeholders. Further, we have used an assessment of the materiality of each issue to our financial stakeholders as a measure of the potential to impact on our business.



FIGURE 3

RANKING OF TOP 48 MATERIAL ISSUES FOR 2016



# STAKEHOLDER ENGAGEMENT

Stakeholder type	Specific stakeholders	Area of interest	Nature of interactions
Shareholder	Retail and institutional shareholders.	Share price, dividends, financial returns, governance, risk management, operating performance and business strategy.	Annual General Meeting, Annual and Sustainability reports, ASX announcements, quarterly report and webcast, website (where all releases and other information on IGO is maintained and regularly updated), one-on-one meetings, conference presentations, broker presentations, direct phone contact with investor relations and share registry.
Employees	Both IGO staff and contractor's employees working on site.	Job security, employee remuneration, industrial relations in general, and fly-in/fly-out (FIFO) in particular. Safety and occupational health Investment in our people.	Continuous direct interaction.
Financiers	Various banks.	Share price, financial returns, governance, asset management, risk management, operating performance and business strategy.	Regular meetings and interactions.
Industry associations	AMEC, AMPLA.	Represents industry interests. Industry and promotion.	Participation in meetings and forums.
Traditional Owners	IGO's operations affect the lands of many Traditional Owners. To name a few, these include: Ngadju, Wongatha, Koara, Ngalia, Wutha, Sami.	Land use, access and management. Socio-economic impacts and environmental impacts generally. Cultural heritage and biodiversity management.	Engagement with representative bodies, community meetings, and in response to public enquiries.
Local communities	Individuals and groups local to our operations, including pastoralists, development groups, local businesses and not-for-profit organisations and other exploration and mining companies.	Employment, business development, infrastructure, land access, cultural heritage, sponsorship and donations, environmental performance and transparency. Transport impacts. Mine closure planning.	Location-specific community relations' personnel, community meetings, formal and informal communication.
Government and government agencies	Federal and state governments, local government, state government agencies including the Government of Western Australia Department of Mines and Petroleum (DMP), Department of Environment Regulation (DER) and Environmental Protection Authority (EPA).	Socio-economic impacts (including taxes and royalties) and environmental impacts generally, and specifically FIFO and employment.	Meeting with agency representatives during site inspections and ad hoc meetings.

Stakeholder type	Specific stakeholders	Area of interest	Nature of interactions
Non-government social responsibility and sustainability organisations	A range of organisations have general interest. Specific enquiries have come from CDP (formerly the Carbon Disclosure Project).	Monitoring of socio-economic and environmental impacts for the purpose of information sharing, encouraging transparency and in some instances, shareholder advocacy or lobbying. Specific environmental impacts include: waste, water, energy consumption and greenhouse gas emissions. Workforce diversity and inclusion.	Response to enquiries. Regular meetings with organisations to ensure mutual obligation and positive impact on the ground. IGO Board members engage in key stakeholder and community events.
Media	Print, radio, TV and interactive.	Financial and operational related queries, ASX announcements, periodical reports and publicly stated business strategy.	Dedicated media relations' function. Regular engagement with business and regional media through six teleconferences per year, regular ad hoc one-on-one discussions, interviews, ASX releases, media releases and site visits.
IGO suppliers and contributors	IGO's key suppliers are listed on pages 52 and 53.	Ongoing purchases, or credit worthiness, buying local, contractor management.	Regular meetings and interactions.
Institutions	Universities, TAFEs and local schools.	Financial and in-kind support. Placement opportunities.	Interactions with institutional representatives, apprentices, and students, scholarship sponsorship, vacation work and research and collaboration.
IGO customers	All gold production from the Tropicana Gold Mine is sold to financiers and the Perth Mint. All nickel ore from the Long Operation is sold to BHP Billiton Nickel West. Prior to December 2014 most of the concentrate produced by the Jaguar Operation was sold to Glencore and the remainder was sold to MRI Trading AG (MRI).	Quality of product and reliability of supply, financial management of business.	Regular meetings and interactions.





## our organisation

focusing on our values to better achieve our goals

# ORGANISATIONAL PROFILE

2.4Moz  
gold reserves

IGO is a diversified mining and exploration company. Figure 4 below indicates the locations of IGO's operations and projects. The fundamental elements of the mining and exploration process are described on page 23.

The Company completed the acquisition of Sirius Resources NL (Sirius) in September 2015. Sirius was an ASX-listed minerals exploration and development company with a key focus on the development of the Nova Project, located east of Norseman in Western Australia.

IGO's gold production comes from its 30% interest in the Tropicana Gold Mine, a joint venture with AngloGold Ashanti, which is 70% owner, and manager) in Western Australia. IGO produces nickel from its 100% owned Long Operation in Kambalda in Western Australia and produces copper, zinc and silver from its 100% owned Jaguar Operation located 60km north of Leonora in Western Australia. IGO is mining nickel and copper-bearing ore from its 100% owned Nova Project located 140km east of Norseman. Concentrate production is expected to commence until December 2016. IGO is engaged in various exploration projects, and continues work on the evaluation and statutory approvals for the Stockman Project in Victoria.

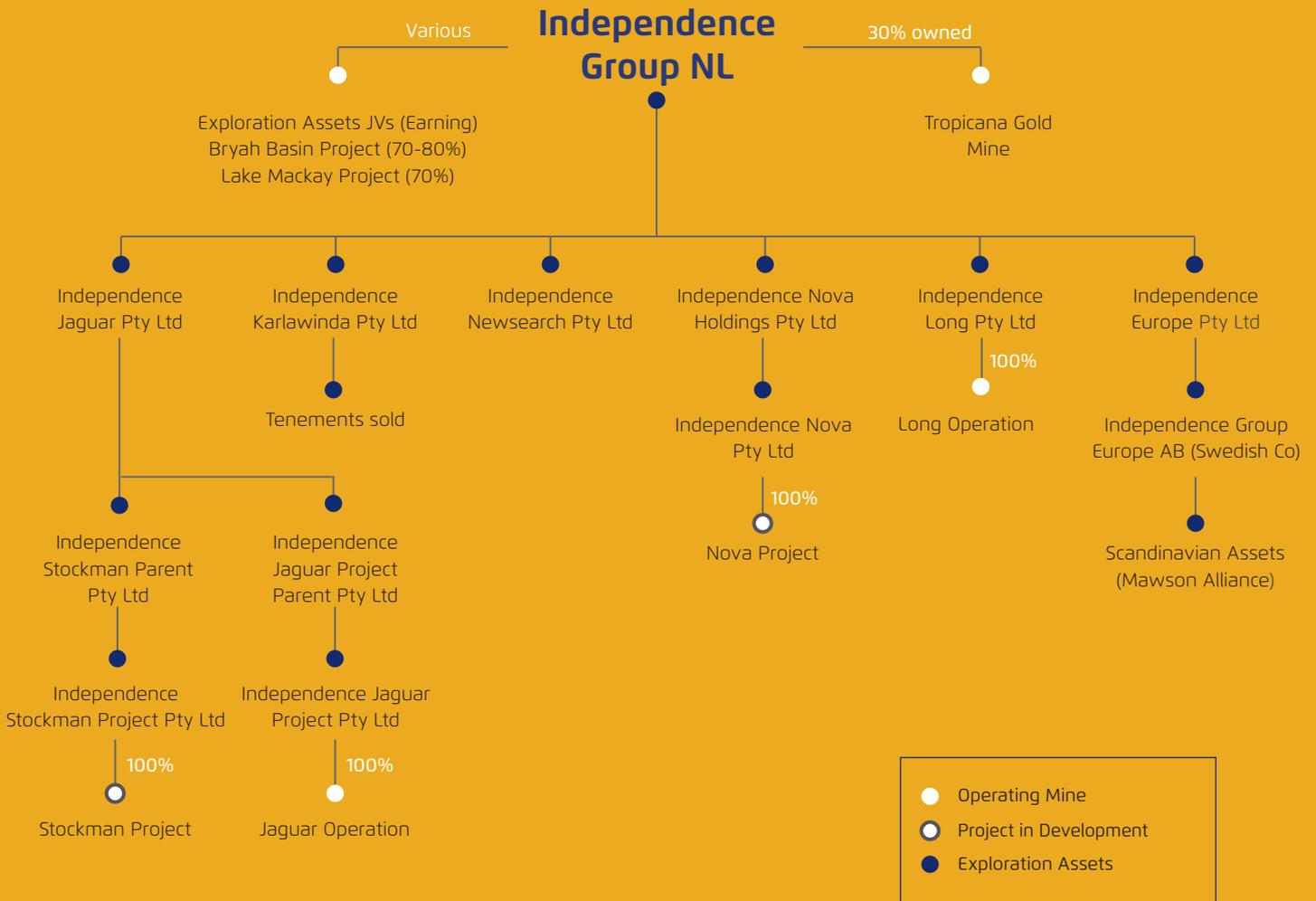
The structure of our business is presented in Figure 5. IGO's inputs and outputs are presented in Figure 6.

FIGURE 4  
LOCATIONS OF IGO OPERATIONS AND PROJECTS

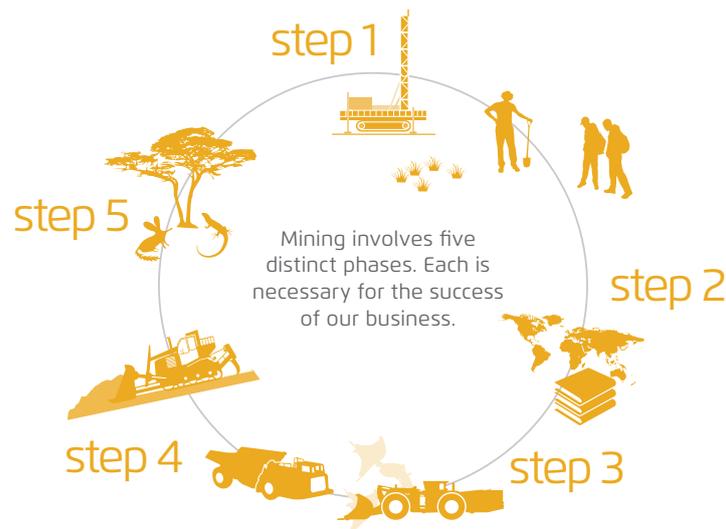




FIGURE 5  
IGO BUSINESS STRUCTURE



## THE MINING AND EXPLORATION PROCESS



### 1. Exploration

IGO is focused on discovery through innovative exploration both in near-mine areas and on regional belt-scale opportunities. At present we are actively exploring at all of our near-mine operations – Long, Jaguar and Tropicana, and at the Nova Project. Our regional exploration projects are located at Lake Mackay in the Northern Territory, and the Bryah Basin, Salt Creek and at Tropicana and Fraser Range in Western Australia. We are also exploring in Scandinavia. IGO exploration is often undertaken in joint venture with other companies. Obtaining permission to access land is a critical step.

### 2. Project Development

Project development involves the definition of economically mineable resources, either as the product of our exploration efforts or through the purchase of prospective ground from other parties. It also involves a number of key steps including undertaking feasibility studies and obtaining environmental approvals. For any project to progress through the process from exploration to operation a number of key criteria must be met. IGO's key development and construction project is the Nova Project near Norseman in Western Australia. Nova is producing ore and first concentrate is expected in December 2016. We are also progressing the final permitting of the Stockman Project in Victoria.

### 3. Operations

Operations involve the extraction of ore from the mine and its beneficiation to produce our saleable products; concentrates that contain gold, nickel, zinc and copper, and as of December 2016, cobalt. Operations involve ongoing exploration and resource definition, and ongoing mine design and processing optimisation. Our intention is always to extract the maximum economic return on our invested capital while operating in accordance with our statutory obligations and our commitments to our stakeholders. IGO also completes mine closure planning and progressive rehabilitation of the new land forms created by our mining activity. Currently IGO has two active mines; the Jaguar and Long operations, and we are the 30% owner of the Tropicana Gold Mine. In the course of managing an operating mine, a key decision lies in either mining the resource to exhaustion or selling the mine to a third party.

### 4. Active Closure

Where practical, rehabilitation works commence during operations and occur progressively until the end of a mine's economic life. Mine closure planning is completed in consultation with our stakeholders and results in the development of a 'basis of design' and 'mine closure criteria'. Earthworks are completed to reshape the land forms created by our mining activity to ensure they are both safe, stable and suitable for the intended post-closure land use. This may involve either passive or active revegetation and other activities. Typically infrastructure is demolished and removed except where otherwise approved. At present, IGO has no mines in an active closure phase. However, the leases that comprise our Jaguar Operation contain the historic Teutonic Bore mine site, which requires progressive rehabilitation.

### 5. Passive Closure

Following the completion of closure earthworks, demolition work and revegetation, mine sites are subject to ongoing environmental monitoring to assess their progress against the agreed closure criteria. Typically this includes monitoring of water quality, revegetation, successional processes, and rates of erosion. Passive closure often exceeds a decade. Once IGO believes the closure criteria have been met, and subject to the approval of the relevant authorities and ongoing consultation with stakeholders, the associated land is relinquished back to the state. At present, IGO has no mines in this phase.



optimising our operations  
strengthening our processes

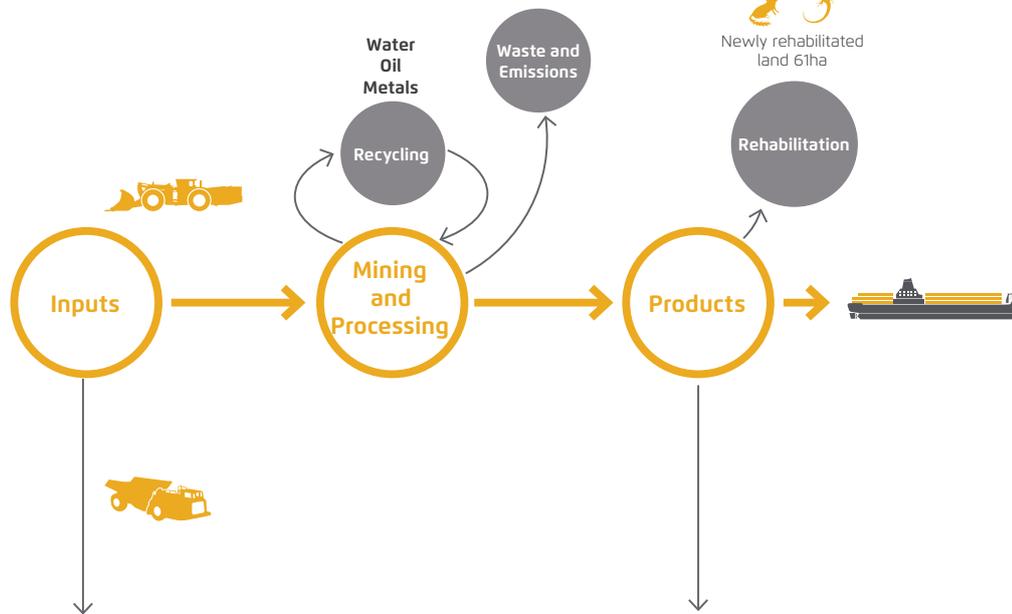
FIGURE 6

IGO INPUTS AND OUTPUTS

Emissions	2015	2016	Units	Change from FY15	
Carbon dioxide	53,957	65,220	CO <sup>2</sup> -e t	11,263	↑
Carbon monoxide	64,001	140,132	kg	76,131	↑
Oxides of nitrogen	154,012	356,208	kg	202,196	↑
Sulphur dioxide	169	262	kg	93	↑
Volatile organic compounds	7,563	22,572	kg	15,009	↑
Particulate matter (<10µm)	399,722	1,029,763	kg	630,041	↑
Particulate matter (<2.5µm)	7,299	20,796	kg	13,497	↑

Waste	2015	2016	Units	Change from FY15	
Tailings	364,527	393,840	t	29,313	↑
Waste rock	348,432	726,018	t	377,586	↑
Materials to landfill	720	1,668	t	948	↑

As IGO has grown, so too have the masses of all our waste streams.



Inputs*	2015	2016	Units	Change from FY15	
Labour**	964,125	1,540,290	h	576,165	↑
Ore mined	743,935	725,089	t	-18,846	↓
Electricity***	71,062	75,601	MWh	4,539	↑
Gas	478,929	476,153	GJ	-2,776	↓
Diesel	4,764,498	9,228,808	L	4,464,310	↑
Ground support (steel)	1,074	1,382	t	308	↑
Explosives	803	1,338	t	535	↑
Cement	7,214	10,531	t	3,317	↑
Grinding media (steel)	664	551	t	-113	↓
Water	2,125,294	1,918,122	kL	-207,172	↓
Reagents - Copper sulphate	469	1,558	t	1,089	↑
Lubricants and oils	198,847	314,124	L	115,277	↑

Products	2015	2016	Units	Change from FY15	
Ni in ore delivered	10,198	8,493	t	-1,705	↓
Cu in ore delivered	723	610	t	-113	↓
Cu in concentrate	7,380	7,412	t	32	↑
Zn in concentrate	44,999	39,335	t	-5,664	↓
Ag in concentrate	1,876,384	1,603,565	oz	-221,869	↓
Au in concentrate	4,439	4,543	oz	104	↑
Au in bullion	148,924	134,435	oz	-14,489	↓

Note:  
\*These figures do not include inputs and outputs from Tropicana Gold Mine, with the exception of gold output which is included. Additional information on IGO's emissions can be found on the National Pollutant Inventory website.

\*\* IGO's 2015 Sustainability Report incorrectly stated our total man-hours worked as variously 148,924 hours and 1,008,390 hours. The table above contains the correct figure, 964,125 hours, which represents the hours worked on our mine sites, exploration projects and at offices.

\*\*\* Electricity data from FY15 only included Long Operation. The table above contains the correct figure, which is 71,062 MWh. Electricity units have also been changed from kWh to MWh.

## BUSINESS STRATEGY

The sustainability of our business is dependent on having a clear business strategy.

Strategic planning is not a periodic exercise for IGO's Executive Committee. Rather, it is a continuous process that ensures alignment of our corporate priorities and the creation of a common focus across the entire organisation. We recognise that delivery on our Strategic Plan will lead to competitive advantage and true value creation for all of our stakeholders.

Our winning aspiration is to create a leading diversified mid-tier Australian mining company that measures success in terms of the following:

- People – Our people want to come to work, know what to do, and can and want to be our best.
- Health Safety and Environment (HS&E) – Our people take care and responsibility for our safety, well-being and environmental management, and that of others.
- Operations – We have optimised and maximised the value of our operations with empowered leadership teams.
- Financial – Our financial strength and capital management enables consistent investment in growth and payment of dividends.
- Growth – We deliver a step change to our asset portfolio through discovery or accretive mergers and acquisitions.
- Business Support – We develop and implement robust 'fit-for-purpose' and transparent processes and systems to support our business.

- External Stakeholders – Our communities, customers and suppliers value their relationships with us.
- Shareholders – Our shareholders receive a superior long-term return on their investment.

We made significant progress in delivering on our business strategy during FY16.

## MANAGEMENT SYSTEMS

The framework for IGO's Management System is based on the well-recognised 'Plan-Do-Check-Act' (PDCA) methodology and the International Organization for Standardization (ISO) guidelines. This methodology includes a component of continuous improvement in all processes so an organisation never reaches a state of 'business as usual', but continues to seek ways to improve (refer to Figure 7).

As IGO's business grows and evolves so too will our Management Systems. In FY16, IGO finalised the development and roll-out of our 19 IGO Common Management System Standards (refer to Figure 8) and the development of a set of IGO Group Safety Standards.

In FY16, IGO introduced a company-wide document management system (DMS). All controlled IGO documents are captured in the IGO DMS, and staff and contractors have access to this system.

IGO's Common Management System Standards can be found on our website: [www.igo.com.au](http://www.igo.com.au).

FIGURE 7  
CONTINUOUS IMPROVEMENT

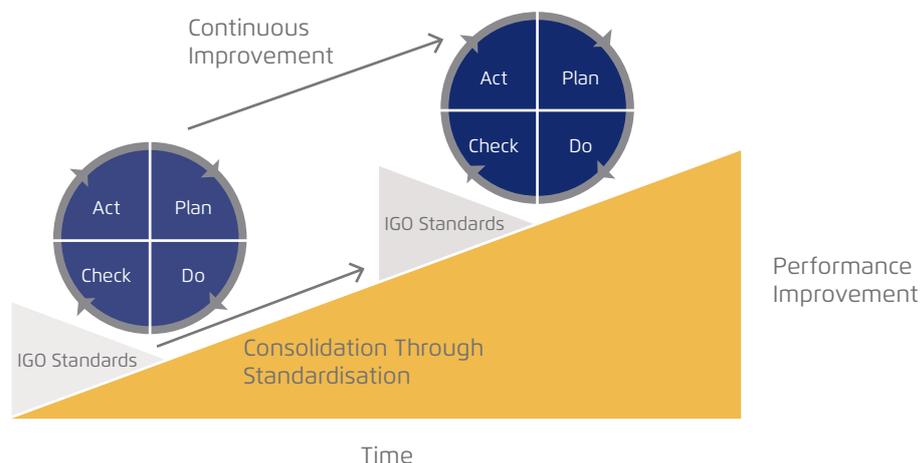
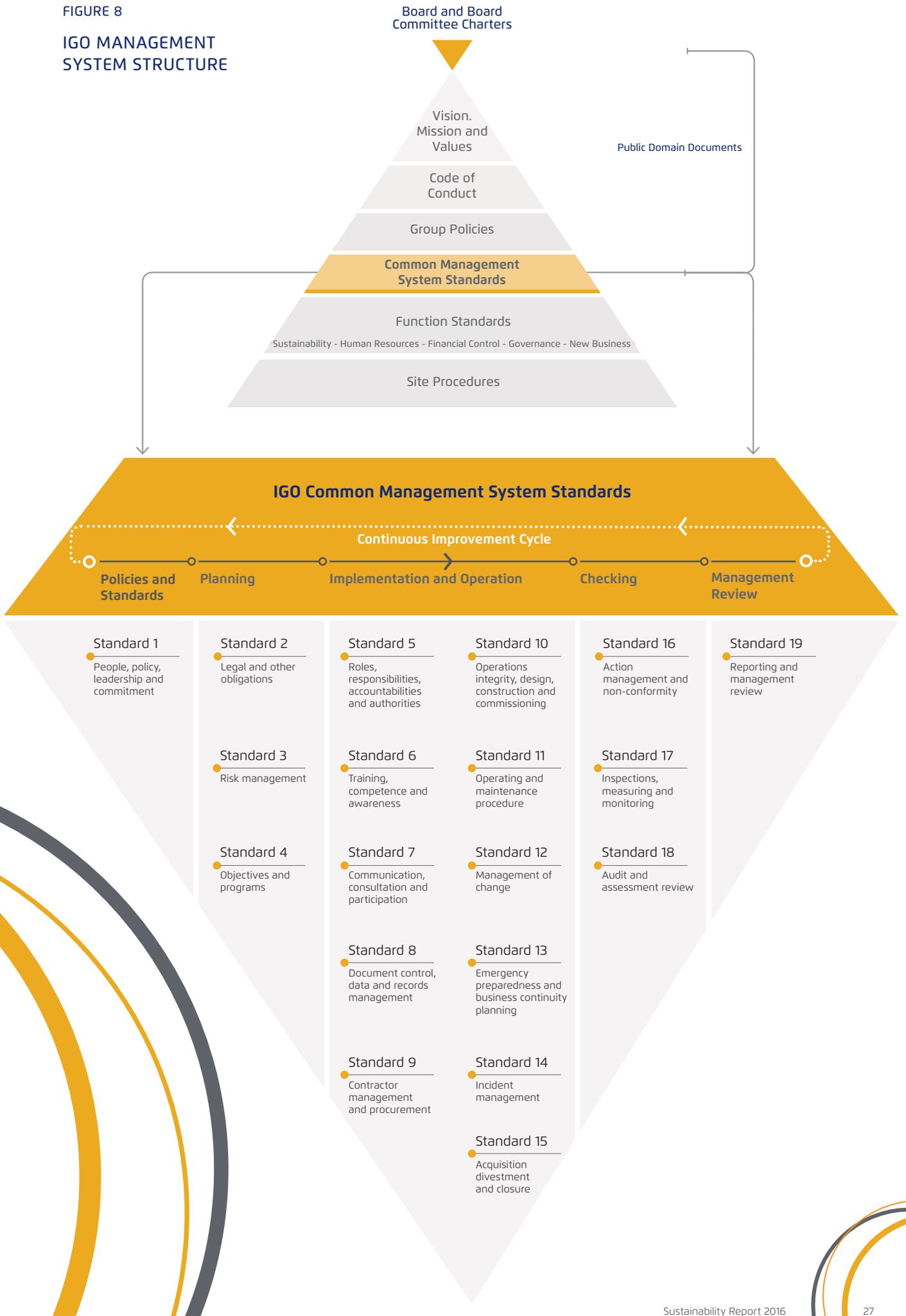


FIGURE 8

IGO MANAGEMENT SYSTEM STRUCTURE





focusing on production  
delivering on our promise

## OPERATIONS

IGO has two operating mines, Long and Jaguar, and is 30% owner of a third, the Tropicana Gold Mine. Ore is being mined at IGO's Nova Project, and first concentrate will be produced in December 2016.

3.9

lost-time injury  
frequency rate  
FY16



### PUTTING HEALTH AND SAFETY FIRST

"I like my job, but I'm not prepared to get hurt doing it. It's a matter of taking a moment to think about what you're about to do."

Luke Adley  
Boilermaker, Jaguar Operation



Mining method	Open pit
Production	Au in bullion – 134,435 (IGO's share)
Area disturbed	305ha
Area rehabilitated	0ha
Workforce	FIFO – 100%
Life of mine	2022

## TROPICANA GOLD MINE

The Tropicana Gold Mine is an unincorporated joint venture managed by AngloGold Ashanti. IGO is a 30% shareholder. While IGO has no direct management of the mine, members of IGO's Executive Committee meet at least quarterly with AngloGold Ashanti's site and corporate management to review both the joint venture's performance and the risk management processes. These reviews address any occupational health and safety issues, environmental management performance, community engagement, and the mine's physical and financial performance. Additionally, IGO receives daily performance reports on production and safety outcomes.

### LOCATION

The Tropicana Gold Mine is approximately 330km east-north-east of Kalgoorlie and 230km east of Laverton. Tropicana comprises approximately 3,028km<sup>2</sup> of tenements that stretch over more than 180km in strike length along the Yilgarn Craton and Fraser Range Mobile Belt Collision Zone. The mine sits within traditional lands variously overseen by the Central Desert Native Title Services, the Goldfields Land and Sea Council, and the Wongatha claimant's North East Independent Body representatives.

### BACKGROUND

IGO targeted and pegged the area containing the current gold reserves in 2001. AngloGold Ashanti entered into a joint venture with IGO in 2002, and thereafter discovered Tropicana, Havana and Boston Shaker gold deposits in 2005, 2006 and 2010, respectively. The deposits occur over a 5km strike length with gold mineralisation intersected over a vertical depth of 1km beneath the natural surface.

Following Western Australian and Federal Government approvals in early 2011, construction of the 220km access road commenced. This was followed by the development of site infrastructure including an aerodrome, accommodation village, borefields and a processing plant. It is worth noting that work is ongoing to have the processing plant certified as compliant to the International Cyanide Management Code (refer to [www.cyanidecode.org](http://www.cyanidecode.org)).

Mining of the Havana deposit commenced in 2012. The processing plant was commissioned in late 2013 and the first gold was produced in September 2013. Post-commissioning, nameplate capacity of 5.8Mtpa was achieved in March 2014.

FIGURE 9  
TROPICANA GOLD MINE



The Tropicana Gold Mine involves open pit mining of ore and waste rock using conventional blast, excavator and truck bulk mining methods. Gold-bearing ore is processed on site. Processing involves primary and secondary crushers, grinding in a high-pressure grinder and semi-autogenous grinding (SAG) mill, thickening (followed by cyanide leaching and carbon adsorption), carbon elution and regeneration, tails thickening and disposal, and tailings water recovery.

In FY16, AngloGold Ashanti mined 24.6Mt of rock and processed 6.5Mt of ore to produce 448,116oz of gold. IGO's share of the gold production equates to 134,435oz.

## CONSUMABLES

The main consumables at the mine are diesel, lime, cyanide, carbon and water.

To supply a cleaner source of energy for power generation at Tropicana, construction of a gas pipeline began in March 2015. This pipeline was successfully completed ahead of time, enabling early commissioning, and the pipeline officially opened in February 2016. At Tropicana, 17 new gas generators were installed to replace the diesel generators, with the capability to run on diesel if required. The gas pipeline construction exceeded all production and safety targets, and its fauna management program (retrieval of animals that fall into the pipeline trench during construction) won an environment award.

## WASTE

The key waste streams from the mine are waste rock and tailings. In addition to the gold-bearing ore, waste rock is extracted from the various pits. This rock (predominantly ferruginous cherts) contains some material that is classified as potentially acid-forming. Such material, if left unmanaged and exposed to the elements, can generate an acidic discharge that can cause downstream impacts on biota and groundwater. Given this, the waste rock dumps have been designed and are being constructed to ensure the potentially acid-forming material is blended with the neutralising waste rock. This combined material is placed away from what will be the final slopes of the waste rock landform.

Tailings are a thick, water-based suspension of fine crushed rock, sand, and clay produced from the processing plant once the gold has been recovered. This waste is pumped to the tailings storage facility, which is designed to allow the tailings to settle and form a 'beach' that drains to a central pond. Ponded tailings liquor is recovered and returned to the processing plant. Tailings are cyclically deposited so the beaches evaporatively dry and enable the dried tailings to be progressively stacked higher. A key environmental consideration in this part of the process is the presence of weak acid dissociable cyanide in the tailings liquor.

To date, the development of Tropicana has required the clearance of 2,619ha of natural bush. This includes both mining and exploration disturbance but excludes open pit disturbance.

A small volume of both putrescible and hard waste is disposed of in the on-site landfill.

134koz  
gold produced  
(IGO's share)

IGO targeted and pegged the area containing the current gold reserves in 2001. AngloGold Ashanti entered into a joint venture with IGO in 2002, and thereafter discovered Tropicana, Havana and Boston Shaker gold deposits in 2005, 2006 and 2010, respectively.





Mining method	Underground – stoping
Production	Ni in ore – 8,493t Cu in ore – 610t
Area disturbed	102ha
Area rehabilitated	8ha
Workforce	FIFO – 19% Residential/DIDO – 81%
Native title	Ngadju (currently before the High Court)
Life of mine	2018

## LONG OPERATION

The Long Operation is located on the shores of Lake Lefroy, approximately 3km east of Kambalda and 50km south-south-east of Kalgoorlie.

The Long Operation is comprised of both freehold land and state mining leases. It sits within a region that has been, and continues to be, subject to extensive exploration, mining and ore processing activities. Our nearest neighbours are other mining operations, which include the BHP Billiton Nickel West Pty Ltd’s (BHPB’s) concentrator facility and Gold Fields Australia Pty Ltd’s St Ives Gold Mine.

## BACKGROUND

IGO acquired the Long Operation from BHPB (formerly WMC Resources Ltd) in September 2002. It had been operated by WMC Resources since 1979 before being placed into ‘care and maintenance’ in early 2000. The mine was re-commissioned in October 2002 and has been operating successfully since.

The Long Operation involves the underground mining of ore and waste rock. IGO has an off-take agreement with BHPB whereby the ore produced from the mine is delivered to their adjacent concentrator facility for toll treatment and production of nickel concentrate.

The mining process at the Long Operation results in the creation of underground voids. If required, where the surrounding rock is also to be mined, these voids are backfilled to prevent the collapse of the new mining areas (i.e. stopes). The backfill used is a paste fill made from cement and tailings sourced from the neighbouring St Ives Gold Mine, reducing the total tailings material on the surface to be rehabilitated. This backfill material is manufactured on site at our paste plant and flows through a pipe network underground.

One of the noteworthy aspects of the Long Operation is the presence of third-party assets on the IGO property (e.g. tailings lines run from BHPB’s concentrator facility to the west of the Long Operation to the BHPB tailings storage facilities located to the north-east of the Long Operation). IGO is currently developing an updated closure strategy for these assets with BHPB.

FIGURE 10  
LONG OPERATION



## CONSUMABLES

The main consumables at Long Operation in FY16 were electricity, ground support steel, water, diesel and explosives (in order of dollar value).

The Long Operation sources electricity from BHPB, which generates electricity from Trans Alta gas turbines located at BHPB's concentrator facility.

Although the mine extends under the western edge of Lake Lefroy, the mine itself is relatively dry. Most of the water captured underground is recycled in the mining activity. Some is used in the backfill manufacturing process and the remainder is discharged (subject to license conditions) onto the saltpan of Lake Lefroy.

## WASTE

The relatively small mass of extracted waste rock is placed in a single waste rock dump. A proportion of this material is classified as potentially acid-forming.

A small volume of both putrescible and hard waste is disposed off site in the Kambalda East landfill.

## SAFETY CASE STUDY:

### HAZARD AND BEHAVIOURAL OBSERVATION REPORTING AT LONG OPERATION

Four years ago, IGO's Long Operation embarked on a program to drive a change in safety their culture. Over this time the workforce has halved in size for operational reasons, and yet the team at Long have made significant progress. This change in culture is well illustrated in the frequency of hazard reporting and the workforce's participation in safety observations (a process of one-on-one engagement to address 'at risk' behaviours) (refer to graph). IGO believes that this culture change has been the major contributing factor to the decrease in serious injuries and incidents at Long Operation. At the time of writing,



8,493t

nickel metal  
produced





Mining method	Underground – stoping
Production	Cu in concentrate – 7,412t Zn in concentrate – 39,335t Ag in concentrate – 1,603,565oz
Area disturbed	288ha
Area rehabilitated	42ha
Workforce	FIFO – 95% Residential/DIDO – 5%
Native title	No claim
Life of mine	2019

## JAGUAR OPERATION

The Jaguar Operation is 60km north of Leonora in Western Australia. The area has historically hosted three economically viable underground mines; the first discovered was the Teutonic Bore. The Jaguar deposit was discovered in 2002 approximately 4km south of the Teutonic Bore and the most recent discovery, the Bentley deposit, was discovered in 2008.

The Jaguar Operation is comprised of state mining, exploration and miscellaneous leases, totalling approximately 38,635ha. The nearest towns to the Jaguar Operation are Leonora and Leinster. The Jaguar Operation is primarily situated on the Tarmoola and Weebo pastoral leases.

Given the 35-year history of mining activities within the Jaguar Operation’s mining leases, the area has been heavily impacted. These impacts include exploration land clearing, road development, and the existence of mining-related structures including waste rock dumps, historic tailings storage facilities, and laydown areas. The surrounding bushland has also been severely degraded as a result of prolonged grazing by goats and cattle within the surrounding pastoral leases. The most significant historic feature is the abandoned Teutonic Bore open pit mine (refer to the Environmental Impacts section of this report page 73).

## BACKGROUND

The Jaguar Operation was acquired by IGO as part of its takeover of Jabiru Metals Ltd in 2011. It now consists of the nearby Bentley zinc-copper-silver-gold underground mine, the Jaguar processing facility, administration infrastructure, and the accommodation village. Operations at the Jaguar underground mine ended at the start of FY14 and, as a result, all FY16 mill production ore was sourced from the Bentley deposit. Additional ore sources are currently being investigated to extend the mine life.

IGO’s operations involve the underground mining of ore and waste rock. The processing plant has been designed to recover copper and zinc by ore crushing, milling, classification, flotation, thickening, and concentrate filtration. Copper and zinc concentrates are packaged into sealed sea containers and transported approximately 720km from site to Geraldton Port for export.

FIGURE 11  
JAGUAR OPERATION



The mining process at the Jaguar Operation results in the creation of underground voids. Where the surrounding rock is also to be mined, these voids must be backfilled to prevent the collapse of the new mining areas. At Jaguar this is achieved by backfilling voids with waste rock and cement aggregate fill, reducing the size of waste rock dump final landform.

## CONSUMABLES

The main consumables used at Jaguar in FY16 were natural gas, diesel, grinding media (steel balls) and explosives.

The majority of power generation for the Jaguar Operation is fuelled by compressed natural gas (CNG) at the Jaguar power station. However, some areas (e.g. the Jaguar accommodation village) are powered by local diesel-fuelled generators as power lines have not been installed to all areas.

Water is pumped from the Bentley underground mine to settling dams then onto the Jaguar process water dam. This water is used in the processing plant, re-used underground, and for exploration activities. Any surplus water is discharged into the historic Teutonic Bore open pit mine, allowing it to be pumped back to the processing plant if required.

## WASTE

The key waste streams from the mine are waste rock and tailings. Waste rock is extracted from underground and placed in waste rock dumps. Some of this material is classified as potentially acid-forming (PAF).

The Jaguar Operation waste rock dumps have been designed, and are being constructed, so the PAF material is blended with neutralising waste rock and then placed on top of the waste dump which minimises run-off and leaching. The blended PAF rock will be progressively encapsulated within non-PAF material and rehabilitated. Annual photo-monitoring records vegetation health and provides clear evidence for the presence or absence of acid mine drainage.

Current forecasts predict that the entire Bentley waste rock dump will be crushed and used for the production of cement aggregate fill. This means the current waste rock dump area will require minor rehabilitation at mine closure and risk of acid mine drainage will be minimised due to its storage underground.

The mining process also generates tailings, which are pumped to the tailings storage facility for disposal. The facility is designed to allow the tailings to settle forming a 'beach' that drains to a central pond. Ponded tailings liquor is recovered and returned to the process plant. Tailings are cyclically deposited and the beaches dry evaporatively, which enables the dried tailings to be progressively stacked higher.

A key environmental consideration in this part of the process is the classification of the tailings as PAF and the low pH (ranging from 3 to 5) of the tailings return water. It is likely that both the return water and tailings would have a detrimental effect on the surrounding environment if released.

A small volume of both putrescible and hard waste is disposed of in the on-site landfill.

# \$133M

Jaguar revenue

## CASE STUDY:

### STEPHANIE ALEXANDER KITCHEN GARDEN NATIONAL PROGRAM (LEONORA DISTRICT HIGH SCHOOL)

The Stephanie Alexander Kitchen Garden National Program aims to change the way children think about food and to teach primary school students (years three to six) how to grow, harvest, prepare and share fresh, nutritious food.

The project specifically targets schools with populations most at risk of poor health outcomes, including schools with a low socio-economic index and those with high Indigenous and/or culturally and linguistically diverse populations.

IGO has supported the Healthy Living Healthy Eating Program at Leonora District High School in FY16 including a bike program to build fitness and discipline as well as a kitchen garden program, which saw staff, students and community members take a 'sandpit' and turn it into a flourishing garden area.

Representatives from our Jaguar Operation attended the Leonora District High School presentation night in December 2015 to celebrate the end of a successful school year. They were able to see progress of the kitchen garden, which has continued to thrive under the care of the students and teachers.

IGO has committed to providing ongoing support for the kitchen garden program and is now also looking at ways that Jaguar employees can become more involved at the school and in the wider Leonora community.





investing in our future  
monitoring and managing our impact

# GROWTH

## OVERVIEW

As mines have a finite life, new projects must be added to IGO's asset portfolio to ensure our sustainability and strengthen our business.

We target opportunities that have scale and the ability to generate high margins over a long mine life. This will be delivered through both discovery and accretive mergers and acquisitions.

In FY16 our new business activities were focused on bringing the world-class Nova Project into our portfolio through the acquisition of Sirius Resources NL. This was coupled with re-prioritisation of our exploration activities on belt-scale opportunities. These activities have significantly strengthened the IGO growth platform and position IGO for significant transformation in FY17.

Organic exploration leading to discovery remains a core part of IGO's business development strategy. A significant focus for FY17 will be directed to unlocking the exploration potential of a number of highly prospective belt-scale opportunities in the IGO portfolio.

## DOING WHAT IS RIGHT AND DOING WHAT WE SAY WE WILL DO

"We all want a fair go but sometimes we've got to act to make sure this happens for someone else. Often it takes real effort to deliver on a promise."

Monika Widzynski  
Laboratory Technician, Jaguar Operation



<b>Mining Method</b>	Underground – stoping
<b>Production (forecast)</b>	Ni in concentrate – 325,000t Cu in concentrate – 134,000t
<b>Area disturbed</b>	512ha
<b>Area rehabilitated</b>	43ha
<b>Workforce</b>	FIFO – 88% Residential/DIDO – 12%
<b>Native title</b>	Ngadju
<b>Life of Mine</b>	2029

## NOVA PROJECT

The Nova Project commenced mining and stockpiling of ore in June 2016. The Nova Project is based on twin nickel-copper sulphide deposits known as the Nova-Bollinger deposit. This deposit is 700km east of Perth, 120km east of Norseman and approximately 38km north of the Eyre Highway.

On 4 August 2014, Sirius signed the Nova Mining Agreement with the Ngadju, the Traditional Owners of the land. Subsequently, the Nova Mining Lease (M28/276) was granted on 19 August 2014.

Construction at Nova commenced in January 2015 and is on track to produce first concentrate in December 2016. At full production, Nova is expected to produce an average of 26,000t of nickel, 850t of cobalt and 11,500t of copper annually.

Three-year off-take agreements have been signed with BHPB and Glencore for 50% of the forecast nickel sulphide concentrate to be produced from Nova Project. In addition, a three-year off-take agreement with Trafigura for 100% of the future copper sulphide concentrate produced from Nova Project has been signed.

All major infrastructure, except for the processing plant is now complete, including the 500-person accommodation village, a 2km sealed airstrip, a fully enclosed concentrate storage shed, a lined tailings storage facility and a power station.

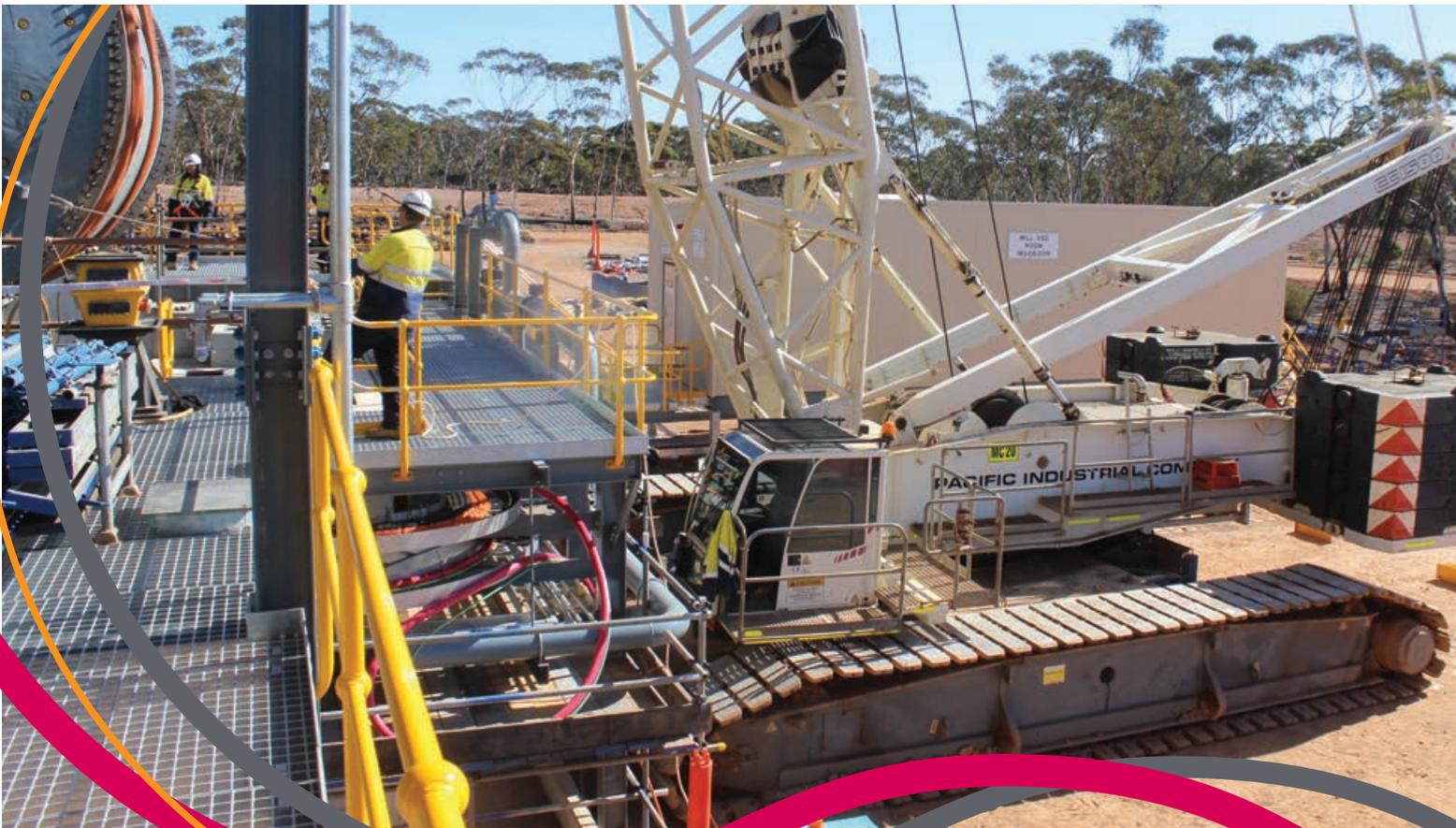
Underground development is progressing according to schedule.

Mine dewatering is being progressively completed. Water is being stored in Nova's fully-lined tailings storage facility. This water will be recovered when the processing plant commences operations.

Once the mine enters production, the principal waste stream will be tailings and waste rock. It is anticipated that much of the waste rock will be used for the closure of the tailings storage facility, however a small residual waste rock dump may remain.

FIGURE 12  
NOVA PROJECT





## ENVIRONMENTAL CASE STUDY:

### PRESCRIBED BURNS AT NOVA PROJECT

Nova is surrounded by the pristine forest of the Great Western Woodlands. Fire in these woodlands drives natural ecological processes. However, such fires pose a material risk to the Nova Project if unmanaged.

Prior to 2015 Nova committed to partnering with Department of Fire and Emergency Services (DFES) and the Ngadju Fire Crew to share resources and undertake research and fire fuel reduction works. The objective of the Prescribed Burn is to reduce the fire fuel load in strategic locations around the Nova site to reduce the potential bushfire intensity near the mine assets, while maintaining the ecological value and diversity of the surrounding woodland.

In July of 2015, six DFES members and 13 Ngadju Fire Crew undertook a Prescribed Burn. Two strategic sections of vegetation totalling 162ha were burnt. The first section surrounds the site's explosives magazine and protects the operational area from a wild fire approaching from a south-westerly direction. The second controlled burn area reduces the risk to the mine's borefield and the village. In July 2016, further controlled burns were completed to protect the area where the Nova Project solar farm is to be built and to give protection to the processing and power plants.

This work not only serves to protect the Nova Project's assets but also provides data to improve the DFES fire behaviour models.





**FIGURE 13**  
**STOCKMAN PROJECT**



## STOCKMAN PROJECT

The Stockman Project is located in the East Gippsland region of north-eastern Victoria, 460km by road from Melbourne and approximately 19km east-south-east of Benambra. It was acquired as part of IGO's 2011 acquisition of Jabiru Metals Ltd.

The Stockman Project encompasses two defined copper-zinc-silver-gold deposits, Wilga and Currawong, and various prospects and exploration targets. The larger Currawong deposit is fully intact. A core of copper-rich ore from the Wilga deposit was previously mined between 1992 and 1996.

At present, and as noted last year, IGO is seeking approvals to develop an operation that would see the concurrent underground mining of Wilga and Currawong. These are planned to feed a 1.0Mtpa differential flotation concentrator to produce approximately 150,000tpa of copper and zinc concentrates over a project life of approximately ten years. The concentrate would be sold to custom smelters (most probably in the southern Asia region).

The Environment Effects Statement (EES) for the Stockman Project, the overarching permitting instrument for the project under the *Victorian Environment Effects Act 1978*, received a positive assessment from the Victorian Government, and project approval from the Federal Government, subject to conditions, in November 2014. This allowed the Stockman Project to proceed to the licensing phase, which is currently being advanced.



The key licensing tasks are the preparation of a Project Work Plan (and associated Management and Monitoring plans) and the Planning Scheme Amendment. These plans are required to obtain consent for the construction of infrastructure both inside and outside the mining tenement, including the accommodation village.

As the project approvals process progresses, IGO continues to evaluate the project's economics. A final investment decision will likely only occur once approvals are finalised.

**9Mt**  
copper and zinc ore  
reserves





## EXPLORATION

Exploration is core to IGO's business development strategy. We remain committed to our search for opportunities to increase our portfolio. To this end, IGO continues leading studies on prospectivity designed to increase IGO's probability of delivering exploration success.

## MINERAL TITLES

In FY16 IGO's total landholding increased from approximately 888,000ha to 1,304,000ha. The significant increase in land tenure was through the acquisition of Sirius (the Nova Project) within the reporting period.

At the end of FY16 exploration licences represented the majority of mineral tenements held by IGO, followed by miscellaneous licences (which includes general licences). The actual number of exploration licences increased by 22% and miscellaneous and other licences increased by 68%. Mining leases increased by 11% in FY16. A breakdown of total landholdings for FY15 and FY16 is presented in the table below.

IGO Mineral Tenements	Units	FY15	FY16	
Prospecting licences	ha	2,635	2,945	↑
Exploration licences	ha	749,900	964,100	↑
Mining leases	ha	44,099	49,404	↑
Miscellaneous and other licences	ha	90,615	286,969	↑
Freehold	ha	569	569	-
<b>Total*</b>	ha	887,818	1,303,987	↑

\* including joint venture landholdings





organic growth  
targeted exploration programs

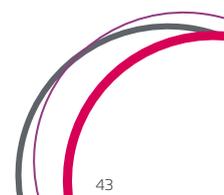
### ANNUAL EXPENDITURE COMMITMENT

All types of mining tenure in Australia, other than ancillary, require that the tenement holder ensures that a minimum level of qualifying expenditure is made in connection with exploration or production activities on the relevant tenement. In this way, state governments ensure that the right to ongoing land tenure is conditional on the requisite investment. With some minor exceptions, IGO has met all of its expenditure obligations.

Expenditure is generally required to be made in connection with mining, and would typically include costs associated with drilling, travel to and from site, purchase of plant and equipment, and wages and administrative overheads among others. Notably, expenses incurred in handling recovered minerals (such as marketing or freight) cannot generally be counted towards satisfaction of an expenditure condition. In some cases, exemptions from this condition may be granted for a set period of time.

### ACCESSING LAND AND EARLY STAGE PROJECTS

An investment in the mining sector generally involves either the acquisition of a direct interest in the assets of a mining project (including its tenements), or the acquisition of shares in a company that owns an interest in a mining project. A typical means of acquiring a direct interest is through 'farm-in' agreements. Such agreements are commonly used in the Australian mining industry, particularly where an investor is seeking to acquire an interest in a mining project during its exploration phase – an approach commonly used by IGO. Under a farm-in agreement, the investor typically agrees to fund particular exploration costs or make a capital contribution in order to earn an interest in the tenement. Generally, once the investor earns this interest, it will form an unincorporated joint venture with the initial owner for the further exploration of the tenement and consequent mining and production of minerals.



## EXPLORATION INCENTIVE SCHEME

In 2009, the Western Australian Government announced its four-year, \$80 million Exploration Incentive Scheme (EIS), an initiative that aims to encourage exploration in under-explored greenfield regions of the state. In FY16 IGO received \$115,884 associated with the Bryah Basin Project.

"I never expected that having completed a Degree in Commerce, I would be standing 600m below the surface as part of my job. Joining IGO as a graduate with no experience in the mining industry, I knew there would be challenges ahead of me but I was provided with great support right from the beginning. Initially, I worked with IGO procurement team allowing me to develop an understanding of how the business operates. I'm currently FIFO to Jaguar Operation and I've started on the Chartered Accountants program. The program of job rotations that comprise the IGO graduate program will play an integral role in my development from a graduate to a professional. Although the journey has only just begun, the experience so far has been invaluable. I know that no matter where the future takes me, I can be sure that my time at IGO will prove to be a major contributor to my personal and professional development."

Demian Haris  
Finance Graduate



## LAKE MACKAY PROJECT

Early in FY14, IGO entered into an exploration joint venture with ABM Resources NL (ABM). The Project includes a 520km<sup>2</sup> exploration licence and a further 5,000km<sup>2</sup> of exploration licence applications. In addition to this, a joint venture with Castile Resources and ABM covering an adjacent exploration licence application of 671km<sup>2</sup> was completed.

The Lake Mackay Project area is 450km west-north-west of Alice Springs and is accessed by the Gary Junction Road. The project is within the Great Sandy Desert Bioregion, which is comprised predominantly of semi-arid sand plains and sand dunes.

Follow-up drilling of soil anomalies has confirmed primary orogenic gold and volcanogenic massive sulphide (VMS)-style base metal mineralisation. These encouraging results confirmed the area as a new belt-scale opportunity and led to IGO triggering phase 2 of its option agreement with ABM. IGO has committed to spending \$6 million on the project to earn a 70% interest within four years of the exploration licence applications being granted.

The land tenure falls within areas covered by the *Aboriginal Land Rights (NT) Act 2006* and access by explorers is covered under a Deed for Exploration with the Central Land Council. All work programs must be submitted to the Central Land Council for approval and meetings are held with Traditional Owners to discuss the proposed activities. Sacred site clearance surveys are also completed by the Central Land Council prior to any on-ground exploration being undertaken.

FIGURE 14  
LAKE MACKAY PROJECT



## BRYAH BASIN PROJECT

IGO's exploration joint venture with Alchemy Resources Ltd (Alchemy) entitles IGO to earn a 70 to 80% interest in the Bryah Basin Project.

The Bryah Basin Project is 100km north of Meekatharra in Western Australia, north-west of the Great Northern Highway. Following the discovery of the high-grade DeGrussa VMS copper-gold deposit in 2009, the area has become an exploration hotspot as VMS-style ore bodies often occur in clusters.

IGO's activities over the past year have comprised reverse circulation and diamond drilling. Numerous geochemical anomalies have been defined through air core drill-testing of favourable stratigraphic horizons.

The southern and eastern portion of the project area fall within the former Doolgunna Pastoral Lease, which is now designated as a Proposed Conservation Area under the control of the Department of Parks and Wildlife.

The project operates under an approved Environmental and Conservation Management Plan (ECMP) developed by Alchemy for those areas that fall within the former Doolgunna Pastoral Lease. The ECMP includes a risk assessment and protocols for proactive environmental management and rehabilitation.

## SALT CREEK PROJECT

IGO's Salt Creek Project is a joint venture with AngloGold Ashanti and comprises a reverse joint venture on tenements that were previously part of the broader Tropicana Gold Mine joint venture with AngloGold Ashanti. IGO has earned a 70% interest in the project through exploration expenditure and will increase that interest through further expenditure.

The exploration area is approximately 220km north-east of Kalgoorlie in the Great Victoria Desert. IGO is principally exploring the Salt Creek Project for magmatic nickel-copper sulphide deposits similar in style to the Nova-Bollinger deposits. IGO's activities over the past year have comprised a combination of air core drilling and moving loop electromagnetic surveys to systematically test the large tenement package and define the areas of greatest prospectivity. Several prospects have been identified and will be the focus of more detailed exploration in the coming year.

The south-western portion of the Salt Creek Project's tenure falls under the *Environmental Protection and Biodiversity Conservation (EPBC) Act 1999* as a 'referral area'. Exploration activities within the area are classified as a 'controlled action' and require adherence to a Conservation and Environmental Management Plan. The Plan has been developed by AngloGold Ashanti on behalf of the Salt Creek Project in consultation with the Department of Parks and Wildlife to mitigate the potential impacts from exploration activities within the referral area.

FIGURE 15

### BRYAH BASIN PROJECT

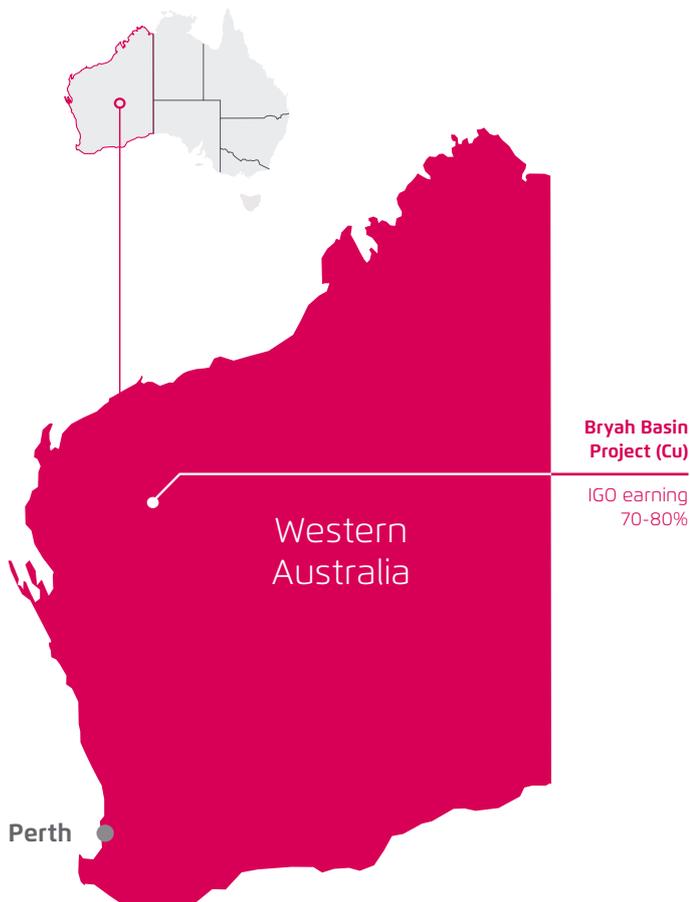
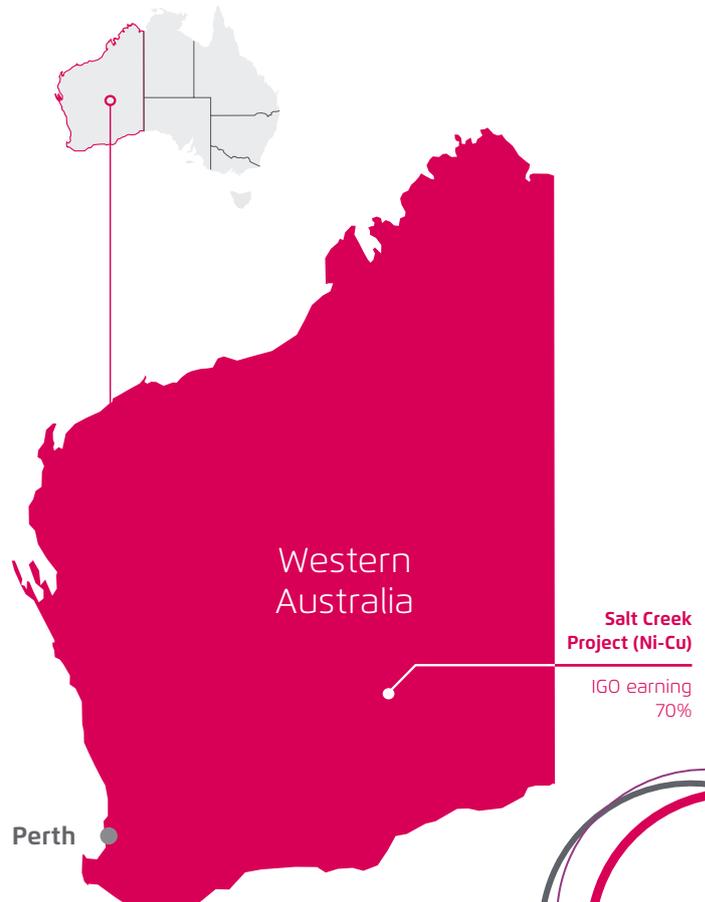


FIGURE 16

### SALT CREEK PROJECT



1.3Mha  
of mineral  
tenements

"After working as a field technician for both exploration and underground at IGO's Jaguar Operations, the Company's sponsorship of my Bachelor of Science in Applied Geology has allowed me to continue my geological journey as part of IGO's graduate program on the new Nova Project. The ore body and surrounding Fraser Range geology is an extremely complex metamorphic suite, which is providing a challenging and interesting work environment for the underground mine development. The new infrastructure and high tech equipment we work with at Nova makes for an exciting graduate project, including the 3-D RGL laser reflectance scanner, used for various underground applications including geological mapping and modelling."

Glenn Boyce  
Geology Graduate

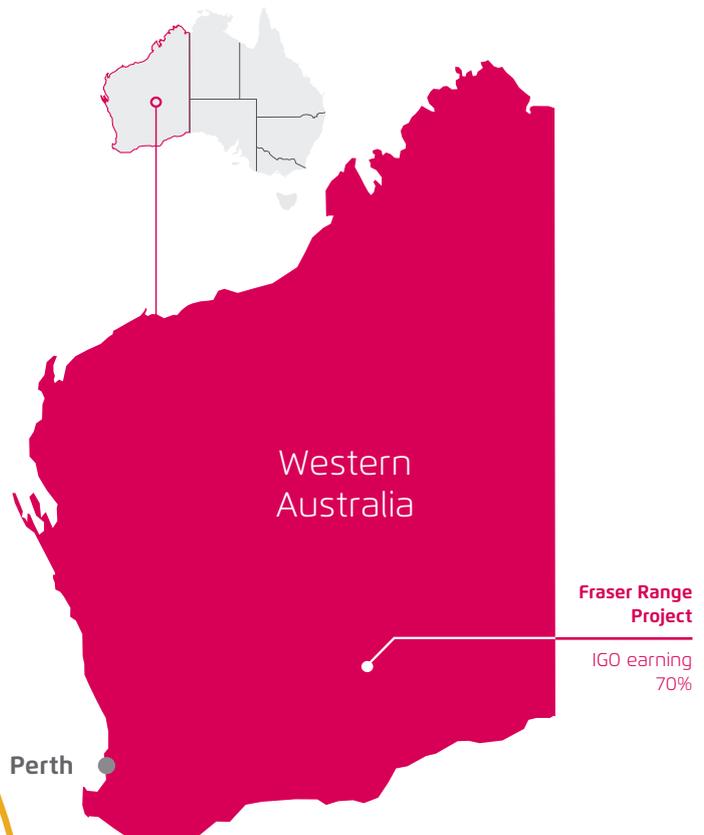
## FRASER RANGE PROJECT

The Fraser Range Project consists of both 100% owned exploration licences, and a joint venture with the Creasy Group. Under the joint venture, IGO owns a 70% interest in the tenements. The Fraser Range Project area is located approximately 110km east of Norseman and covers over 100km strike length of the Albany-Fraser Belt. This emerging belt is considered highly prospective for both Tropicana-style gold deposits as well as Nova-style magmatic, nickel-copper deposits. While many exploration companies have taken up exploration licences in the Fraser Range, IGO has a competitive advantage derived from our knowledge gained during the exploration, discovery and development of the Nova-Bollinger deposit. Exploration activities over the past year have included surface geochemical sampling, ground based gravity and moving loop electromagnetic surveys and drilling to generate and test targets.

Parts of IGO's Fraser Range Project area cover the Fraser Range and Southern Hills pastoral leases, which are actively being farmed. Northern parts of the project area fall within the proposed Lake Harris Nature Reserve and several tenements in the southern part of the project are located within the Dundas Nature Reserve. IGO is required to operate under an approved Conservation Management Plan (CMP) when working in these Class B nature reserves. The CMP is designed to provide a framework for environmental management of exploration activities in accordance with Western Australian and Federal Government legislation.

FIGURE 17

### FRASER RANGE PROJECT





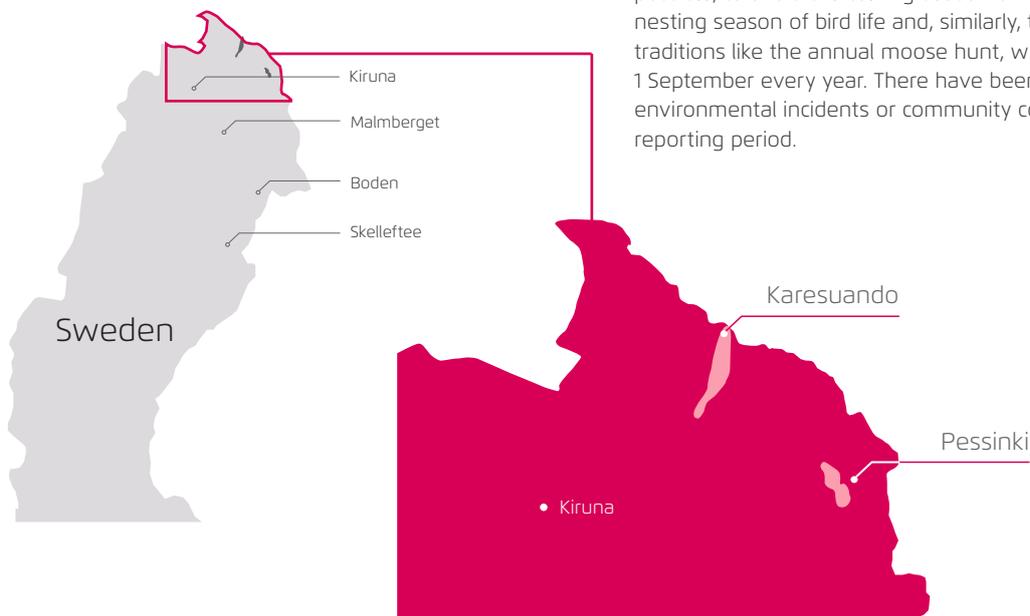
## SCANDINAVIAN PROJECT

IGO has been undertaking exploration activities in Scandinavia since 2007, under a number of nickel-copper focused joint ventures with the Toronto Stock Exchange (TSX)-listed company Mawson Resources Ltd (MAW), based in Sweden. Project exploration activities to date have included regional prospecting, geochemical and geophysical surveys and drilling. In FY16 our activities were limited to airborne geophysical surveying and permitting in anticipation of on-ground field works. The joint venture had no on-ground impacts. In FY17 the planned works will include on-ground geophysical surveying and, subject to the success of this preliminary work, drilling.

IGO currently has two active projects located in Northern Norrbotten County, namely Karesuando (25,894ha) and Pessinki (13,452ha). The Pessinki Project intersects part of the Pessinki Nature Reserve (SE0820257, Natura 2000).

FIGURE 18

### SCANDINAVIAN PROJECT



The Scandinavian Project continues to regularly engage various stakeholders including individual landowners, the Inspectorate of Mines, the County Administration Board and the Sami Traditional Owners. As noted in our 2015 Sustainability Report, some of those consulted have previously raised concerns. These concerns persist. The most common theme is a general concern about the scale and potential for widespread impact associated with mining; a concern that arises from the fact that, for many people, their only experience of mining in the region has been large-scale open-pit iron ore mining. Other concerns include the industry's potential impacts on communities and individual's lifestyles. Of specific and consistent concern is the potential to impact on traditional reindeer herding practices and water contamination.

IGO, in association with its joint venture partners, are clearly advocates for mining. Notwithstanding this, we have sought to pursue our interests in exploration while responding to the concerns of those with whom we engage. We have employed a range of mitigation measures such as planning our activities in winter, where possible, to avoid the calving season of reindeer and the nesting season of bird life and, similarly, to avoid important traditions like the annual moose hunt, which begins on 1 September every year. There have been no reported environmental incidents or community complaints in the reporting period.



building innate resilience  
reducing costs through innovation

# ECONOMIC IMPACT

FY16 was challenging for many in Western Australia's mineral industry. Most participants in the sector have had to adapt to a decline in global commodity prices (albeit somewhat offset by the Australian dollar's depreciation against the US dollar).

Strong investment in the resources sector over previous years has resulted in surplus capacity for a number of commodities, and in addition, the growth in global demand has moderated to lower levels. Nickel is historically the most price volatile of commodity metals, and as a consequence, those nickel miners who have persisted, like IGO, have evolved with an innate resilience to significant changes in the price environment. Notwithstanding this, IGO, like many others in the industry, has been compelled to reduce costs and innovate, and as a regrettable outcome, IGO has reduced the size of its workforce at both our Long and Jaguar operations. However, the development of IGO's Nova Project has, and will continue to see, IGO creating new job opportunities (refer to Our People section for further information).

As of March 2016, the latest figures from the Government of Western Australia, suggest the total value of the Western Australian minerals industry exports was \$92.7 billion (refer to [www.dmp.wa.gov.au/Documents/2015\\_Economic\\_indicators\\_resources\\_data](http://www.dmp.wa.gov.au/Documents/2015_Economic_indicators_resources_data)). The value of IGO's revenues and other income in FY16, including Tropicana, was approximately \$413.2 million.

For FY15, Western Australia was Australia's major gold producer, accounting for just over 70% of total gold production. While Western Australian output decreased by just over 2% on the previous financial year to 6.15Moz (191.3t), the total value of sales, at \$9 billion, was 1.5% higher. This increase was largely due to an 18% fall in the Australian dollar over the period. IGO gold sales were valued at \$228 million in FY15 and \$223.4 million in FY16. For FY15 the top eight producers accounted for 56% of total production. Tropicana accounted for 8% with 15.3t, up 2% from the previous year.

Western Australia is the only Australian state to produce nickel. In FY15, production was 183,083t, a fall of 26,169t (over 12%) on the 209,252t sold in FY14. In FY15, the value of Western Australian nickel sales fell almost 7% from \$3.5 billion in FY14 to \$3.2 billion in FY15. IGO nickel sales were valued at \$104.9 million in FY15 and \$61.7 million in FY16, which will increase significantly with the Nova Project coming on line.



**\$413M**

revenue from  
operations

## SUPPORTING OUR COMMUNITIES

"It's good that mining companies create local employment and support the education of kids. There's a lot of disadvantage in communities near our mines, and so it's important to create opportunities."

Stephen Rule  
Environmental Assistant, Nova Project





## OPERATING PERFORMANCE

In FY16, with one minor exception, IGO succeeded in meeting or exceeding all of its production and cash cost guidance statements. The exception was Long's nickel production guidance, which was 0.2% below guidance. Tropicana Gold Mine produced a total of 448,116oz of gold (134,435oz being IGO's share), milling 6,528,000Mt of ore at an average gold grade of 2.13g/t. The Long Operation generated 8,493t of nickel in concentrate and 610t of copper in concentrate, mining a total of 215,337t of ore at a head grade of 3.94% and 0.28%, respectively. The Jaguar Operation produced 7,412t of copper in concentrate and 39,335t of zinc in concentrate. A total of 497,751t of ore was milled with a copper and zinc head grade of 1.7% and 8.9%.

## FY16 FINANCIAL PERFORMANCE

- Revenue from operations of \$413.2 million was a good result despite the drop in base metal commodity prices.
- Underlying earnings before interest, taxes, depreciation, and amortisation (EBITDA\*) of \$135.7 million.
- Net loss after tax of \$58.8 million, which includes acquisition costs of \$65.1 million, impairments of \$35.5 million, and gain on investment sales of \$3.0 million.
- Cash flows from operating activities for IGO were \$95.2 million, a result of strong gold sales from Tropicana, combined with sound operating cashflows from Jaguar and Long.
- At the end of the financial year, the Company had cash totalling \$46.3 million (2015: \$121.3 million).
- Total fully-franked dividends paid during FY16 were \$12.8 million. The total amount the Company has returned to shareholders since incorporation in 2002 is in excess of \$146.6 million by way of a combination of \$136.9 million fully franked dividends and a \$9.7 million share buyback in 2009.

- In July 2015, the Company entered into a new syndicated facility agreement ('Debt Facility') for a \$550 million committed term finance facility on an unsecured basis. Drawdowns from the Debt Facility totalled \$271.0 million to June 2016. For further information on IGO's financial performance, refer to the FY16 Annual Report.

\* Unaudited Underlying EBITDA excludes acquisition costs (Q4 FY16: -\$1,848,000, FY16: A\$63,555,000), impairments (Q4 FY16: A\$nil, FY16: A\$35,518,000), and gain on investment sales (Q4 FY16: A\$1,433,000, FY16: A\$2,955,000).

## SOCIO-ECONOMIC CONTRIBUTIONS

IGO's socio-economic contributions can be measured by the salaries and other employment benefits we provide to our staff, the money we spend on contractors and consultants, the money we pay in taxes and royalties, and through our Corporate Giving.

IGO's royalty payments form a part of the Western Australian Government's general revenue and it uses this revenue to fund services such as law enforcement, education, health, roads and community development programs.

Royalties received by the Western Australian Government from all of its mineral and petroleum producers totalled \$5.9 billion in FY15. This was down 16% on FY14 (refer to [www.dmp.wa.gov.au/Documents/Stats\\_Digest\\_2014-15.pdf](http://www.dmp.wa.gov.au/Documents/Stats_Digest_2014-15.pdf)).

In addition to rent, a tenement holder must generally pay royalties in respect of certain minerals obtained from land that is subject to a mining tenement. Royalties are payable in arrears as they are calculated on the basis of the quantity of minerals recovered in a given year. Royalties payable over the life of a tenement will vary depending on the rate of production. Royalty rates are set by state and territory regulatory bodies for each mineral or metal type. In FY16, IGO paid a total of \$14 million in state tax and royalties.

In FY16, IGO spent a total of \$221,090 on community development and related projects and activities (Corporate Giving). This equates to approximately 0.053% of total revenues, which is in line with the recently established IGO Corporate Giving Standard in which 0.06% of total revenue is targeted for Corporate Giving.



## ECONOMIC BENEFIT CASE STUDY:

### NOVA MINING AGREEMENT

At the time of the initial exploration, approval and development of the Nova Project, the project area and surrounds were subject to a native title claim by the Ngadju people. The then owner, Sirius Resources NL, sought certainty of access by concluding a land use agreement (known as the 'Mining Agreement') with the Ngadju people in August 2014. In November 2014, the Federal Court determined that native title existed, and that the Determination Area included some minor components of the project area. Thereafter proceedings commenced to establish a Prescribed Body Corporate in accordance with the *Corporations (Aboriginal and Torres Strait Islander) Act 2006* to represent the interests of the Ngadju people.

In September 2015, with IGO's acquisition of Sirius, IGO acknowledged the Ngadju as the Traditional Owners. In December 2015, the Ngadju Prescribed Bodies Corporate (PBC) was incorporated, a Board was established, and thereafter a Deed of Covenant was established such that the parties to the Mining Agreement are now IGO and the Ngadju PBC.

Whilst the terms of the agreement are confidential to the IGO and the Ngadju PBC, the agreement is available to all Ngadju people. In essence the agreement commits the Ngadju people to grant access rights in return for monetary compensation, assistance with education support, and the creation of employment and business development opportunities. In accord with the agreement, the Ngadju PBC and IGO have established an Implementation Committee that meets regularly to ensure the agreement is given effect.

With the acquisition of Sirius and the Nova Project, IGO inherited the associated Mining Agreement with the Ngadju people. In compliance with this agreement, up until the completion of the sale transaction, Sirius made payments to the Ngadju totalling \$1,462,944. As noted in the Scheme of Arrangement that gave rise to IGO's acquisition of Sirius, the transaction resulted in the conversion of the 400,000 Sirius shares to 264,000 ordinary fully paid IGO shares that were allocated to the Ngadju Trust.

For FY16, IGO paid \$262,017 to Ngadju through the Goldfields Land and Sea Council, and paid \$28,116 in sponsorships, scholarships and funeral expenses to or for Ngadju recipients.

Tropicana's current budget for community donations/support programs in 2016 was \$115,000, excluding the cost of cross-cultural awareness programs of \$100,000.

#### Socio-economic Contributions

Salaries (excluding the Tropicana Gold Mine)	\$51.9 million
Tax and State Royalties	\$14.0 million
Corporate Giving	\$221,090

## PROCUREMENT

IGO supports economic development in the communities in which it operates by seeking to invest first locally and then regionally, then within Western Australia, then nationally and finally internationally.

At the Long Operation, our highest value contracts are our off-take agreements with BHPB, which processes IGO concentrate, diamond drilling and fuel.

At the Jaguar Operation our highest value procurement contracts are our transport contracts, underground mining and drilling services, fuel, gas and catering services. These services and materials are sourced from large, reputable organisations with operations in Australia.

During the construction of Nova, the highest value contract was for the construction of the processing plant, followed by underground mining and drilling services, fuel and catering services. Construction was completed using Australian-sourced labour, except for those modular components of the processing plant, which were fabricated offshore.

**\$14M**

tax and state  
royalties paid



AT THE TROPICANA GOLD MINE, IN FY16 OUR TOP TEN SUPPLIERS OR SERVICE PROVIDERS BY EXPENDITURE WERE:

- 1 MACMAHON CONTRACTORS PTY LTD
- 2 CALTEX AUSTRALIA
- 3 DEPT OF MINES AND PETROLEUM
- 4 CSBP LIMITED
- 5 MOLY-COP AUSTRALIA
- 6 PACIFIC ENERGY (KPS) PTY LTD
- 7 COMPASS GROUP (AUST) PTY LTD
- 8 NETWORK AVIATION AUSTRALIA
- 9 FLSMIDTH PTY LTD
- 10 BLUE SPEC DRILLING

AT THE LONG OPERATION, IN FY16 OUR TOP TEN SUPPLIERS OR SERVICE PROVIDERS BY EXPENDITURE WERE:

- 1 BHPB NICKEL WEST PTY LTD
- 2 SWICK MINING SERVICES
- 3 WESTRAC EQUIPMENT
- 4 LITTLE INDUSTRIES
- 5 BGC CEMENT
- 6 PUMA ENERGY (AUSTRALIA) FUELS
- 7 ORICA AUSTRALIA PTY LTD
- 8 ATLAS COPCO CMT
- 9 FERRO STRATA SYSTEMS PTY LTD
- 10 LHS ROCKTOOLS AUST PTY LTD

AT THE JAGUAR OPERATION, IN FY16 OUR TOP TEN SUPPLIERS OR SERVICE PROVIDERS BY EXPENDITURE WERE:

- 1 QUBE BULK PTY LTD
- 2 QUBE PORTS PTY LTD
- 3 ACTION INDUSTRIAL CATERING P/L
- 4 PYBAR MINING SERVICES PTY LTD
- 5 FIRST DRILLING UNDERGROUND
- 6 PUMA ENERGY (AUSTRALIA) FUELS
- 7 BUNDARRA CONTRACTING
- 8 ORICA AUSTRALIA PTY LTD
- 9 GOLDFIELDS GAS TRANSMISSION PL
- 10 SANDVIK MINING



## contracts and procurement a consolidated approach

AT THE NOVA PROJECT, IN FY16 OUR TOP TEN SUPPLIERS OR SERVICE PROVIDERS BY EXPENDITURE WERE:

- 1 G R ENGINEERING SERVICES LTD
- 2 RJ VINCENT & CO
- 3 BARMINCO LIMITED
- 4 WATPAC CIVIL & MINING PTY LTD
- 5 EAGLE PETROLEUM
- 6 CATER CARE SERVICES PTY LTD
- 7 FUTURE POWER WA PTY LTD
- 8 AUSDRILL NORTHWEST PTY LTD
- 9 AD ASTRAL AVIATION SERVICES
- 10 KERMEN CONTRACTING PTY LTD

### CONTRACTOR MANAGEMENT

From time-to-time, IGO engages contractors (as both businesses and individuals) to provide various services at our mine sites, exploration projects, warehouses and offices. When contractors are at an IGO site, their safety and welfare is IGO's responsibility.

IGO's contractor management processes continue to evolve. In FY16 IGO appointed a Group Manager Procurement and Commercial, overseeing centralised strategic purchasing and contract management. We also established a Common Management System Standard for Contractor Management and Procurement.

We are in the process of implementing minimum performance criteria (safety, environment, governance, operating performance and site management) for our contractors. As a general principle, IGO expects contractors to conform to IGO's Safety Management System.



Subject to contractual arrangements, IGO may require a contractor to also operate in accordance with their own safety management system. Irrespective of the arrangement, IGO expects that its contractors provide their workforce with a safe system of work and a safe place of work. We expect that they monitor and report on their performance, and that we see improved trends in measured outcomes. Put simply, we expect to see the same high standards we expect of our direct employees, with no serious workplace injuries and a declining trend in minor injuries.

Our major contractors have requirements in their contracts consistent with the IGO Code of Conduct and Sustainability Standards. Our contractors are required to undertake a comprehensive program of IGO and work site inductions in order to develop a clear understanding of the requirements for working at our sites.

All contractors working at IGO sites are provided with an IGO representative to manage their contract. This provides IGO with a direct opportunity to maintain ongoing sustainability management.

## CUSTOMERS

In FY16, IGO's key customers were:

- Perth Mint, ANZ, CBA and NAB bought gold produced from the Tropicana Gold Mine
- BHPB bought nickel ore produced from the Long Operation
- MRI Trading AG (MRI) bought both zinc and copper concentrate produced from the Jaguar Operation.

**\$354M**

contractor and  
supplier spend

In our 2015 Sustainability Report, we incorrectly stated that all concentrate produced from the Jaguar Operation was sold to MRI, when in fact some product was sold to Glencore.

## OFF-TAKE AGREEMENT

IGO has an agreement with BHPB where the ore produced from the Long Operation is delivered to BHPB's adjacent Kambalda nickel concentrator for toll treatment and production of nickel concentrate.





## ECONOMIC BENEFIT CASE STUDY:

### CV LOMAG AND BUNDARRA

In accordance with IGO's values, IGO's Diversity and Inclusion Strategy, the 2013 International Council on Mining and Metals (ICMM) Position Statement on Indigenous Peoples and Mining, and IGO's Community Policy, IGO seeks to support both a pathway to employment and the creation of real employment opportunities for Aboriginal people, many of whom are Traditional Owners on whose land IGO operates. In FY16 IGO introduced a new business-wide standard known as Group Community Standard 2 – Aboriginal Employment and Business Development (refer to the IGO website: [www.igo.com.au](http://www.igo.com.au)).

The Standard defines IGO's approach to:

- supporting education, vocational and job readiness training
- promoting employment opportunities for Aboriginal people
- implementing a supportive pre-employment process
- applying a preferential selection process
- promoting a culturally sensitive workplace
- imposing clear requirements on major contractors with regard to employment of Aboriginal people.

IGO has had a number of notable recent successes in both the recruitment of Aboriginal staff and the engagement of Aboriginal-owned businesses. At our Jaguar Operation, IGO has renewed our contract with Bundarra Contracting Pty Ltd, an Aboriginal-owned company operating locally in Western Australia's Goldfields region since 2001. The renewal sees Bundarra's scope of work increased to provide greater certainty for its 25 or so employees. It is anticipated that the contract will be worth approximately \$8 million over the next three years.

At our Nova Project, IGO has signed an agreement with CV LOMAG, a joint venture between Cross Verwijmeren Pty Ltd and LOMAG Pty Ltd, a 100% Ngadjju-owned business to provide miscellaneous civil services. It is anticipated that this contract will create five jobs and will be valued at approximately \$5 million over three years.

Also at Nova we have engaged Qube to provide our product transport and stevedoring services at the Port of Esperance. Central to the Qube contract is engagement of TOCMA, a 100% Ngadjju-owned business, to provide labour hire and training services. It is anticipated that this contract will create seven full-time permanent jobs for Ngadjju people.



stakeholder engagement  
working with our local communities

5%  
increase in the  
number of female  
employees

# SOCIAL IMPACT

IGO is a significant mid-cap mining company in the Australian mining industry. The nature of both our positive and negative impacts are comparable to other miners in the industry and the magnitude of our social impact is proportionate to our size.

Notwithstanding the commonality of these issues to most industry participants, we believe we have 48 social impact-related material issues worthy of active management (refer to page 17). This section of the report provides commentary on those material issues IGO regards as most significant to our employees and host communities.



## VALUING THE VIEWS OF OTHERS AND ACCEPTING PEOPLE FOR WHO THEY ARE

"Nobody has all the answers, so I like it when the team works to fix a problem. We're all different, we all have different experiences, so the debate is real, but that is a healthy thing."

Steven King  
Bogger Operator, Long Operation



## OUR PEOPLE

IGO is an equal opportunity employer with a continued commitment to providing a work environment that is both diverse and inclusive, and a single-mindedness about ensuring that we have the 'right people, in the right roles, at the right time'. We have worked hard to increase diversity within our business units this year with a particular focus on the mix of new employees commencing with the organisation and a specific emphasis on gender and cultural diversity.

During the year, we have also increased our emphasis on Indigenous employment which began with, and has been facilitated by, the implementation of our Aboriginal Employment and Business Standard. This is a clear statement of our commitment to support pathways to employment and the creation of real employment opportunities for Aboriginal people, many of whom are Traditional Owners on the land on which IGO operates.

Since implementing the standard we have made good progress increasing Aboriginal employment and training for both direct IGO employee roles and roles with our major contractors. As our Nova Project has grown, we have created a number of new Indigenous jobs and 15 traineeships. We will expand this commitment in FY17 to include a work readiness program and a number of apprenticeships.

Employment of an Aboriginal Liaison Officer at our Nova Project has been another important step in increasing the support and engagement of our Aboriginal employees and contractors. During FY17 this role will continue to work with our business leaders to identify opportunities for employment and development, to build capacity and to support our local communities.

## HUMAN RESOURCES PLANNING

Our workplaces are committed to the implementation of policies, procedures and training that support our people. This year we have continued this commitment with the introduction of a number of new systems to ensure a continued focus on ensuring fair and comparable pay and benefits, recruitment, access to training and the development and promotion of all our people. We recognise the importance of recruiting broadly from a diverse pool of qualified candidates and to this end have implemented a new online recruitment platform to further ensure ease of candidate application and assessment.

Like many companies in the resources sector, we continue to face the challenge of a gender imbalanced candidate pool and this is reflected in our workforce. At the completion of FY16 our workforce was made up of 76.8% male and 23.2% female. Overall, our female participation rate was 21.9%, which was a year-on-year improvement of 5% (2015: 16.9%). This improvement has largely been accomplished by an increased focus on and enhancement of our recruitment and selection processes. We have also conducted and posted our third Workplace Gender Equality Report (refer to the IGO website at <https://independencegroup.sharepoint.com/sites/dms/Published/Workplace%20Gender%20Equality%20Report%2020160531.pdf>).

In FY16, we have increased our focus on succession planning and have implemented a new Performance Feedback and Succession Planning tool. This new system will see the rollout of individual Key Performance Indicators (KPIs) to a greater number of people in the organisation, with the primary objective of cascading balanced People Strategy KPIs to all levels of the business as part of revised short-term and long-term incentive programs.

## IGO WORKFORCE AND TURNOVER

Our acquisition of the Nova Project in September 2015 has continued our support for local employment. At the end of FY16, our workforce was located mainly at four Western Australian locations: our Corporate Head Office in Perth and our three mine sites: Long Operation in Kambalda; Jaguar Operation, 60km north of Leonora; and our Nova Project, 120km east of Norseman. The Jaguar Operation and the Nova Project operate predominantly as fly-in fly-out (FIFO) sites, while the Long Operation combines a majority of residential roles with some FIFO roles. A small number of our team continue to work on our regional exploration projects in Western Australia, Northern Territory and in Victoria.

At the completion of FY16, IGO had a workforce of 349 direct employees and 394 contractors (these numbers exclude the Tropicana Gold Mine). Overall this year we saw a decrease in direct employee numbers of 12%. This decrease was the result of a number of redundancies across the business to reshape a number of business units. This decrease produced an associated increase in our annual employee turnover rate to 40% (from 28% in FY15). However, IGO recorded a decline in voluntary turnover to 36% of total turnover (44% of total turnover in FY15).

## INVESTING IN OUR WORKFORCE

IGO has always supported growth through innovation and recognised the value of developing our people to achieve their potential. We encourage the pursuit of further study in their area of expertise and offer study assistance for approved courses. This year, the Nova Project has provided an additional avenue for a number of our people to take advantage of new opportunities.

In FY16, a number of our people commenced further study in the disciplines of Finance (CPA course), Training (Cert IV in Training and Assessing), Management (Cert IV in Leadership and Management) and Cert III in Resources/ Mineral Processing. We have also been excited to work in collaboration with the Western Australian Mining Club (WAMC), to provide support for a tertiary student in the form of a Geology Scholarship which was awarded in August 2015. Following this success, we continued this commitment in FY16 and expanded our support to include an additional WAMC Indigenous Scholarship to assist an Indigenous student in the completion of their degree.

At an enterprise level we believe that investment in our future involves investment in the professional development of people in the disciplines and communities that support our businesses.

## WORKPLACE RELATIONS

We foster a workplace environment where people are encouraged to express their ideas, opinions and concerns and we recognise their right to negotiate conditions of employment either individually or collectively. Reflecting our efforts to establish positive relationships with our workforce, no time was lost due to industrial issues involving an IGO employee in FY16.

**This year we have introduced an Aboriginal Employment Policy and initiated two new scholarships in conjunction with the WA Mining Club.**

7%  
reduction in injuries  
at Tropicana

## SAFETY

In FY16, IGO employees and contractors worked 1,540,290 hours resulting in a total of 124 of our people sustaining injuries requiring some type of treatment. This is 1% lower than the 125 injuries that occurred in FY15.

In FY16, AngloGold Ashanti's employees and contractors at Tropicana worked 1,991,908 hours resulting in a total of 151 people sustaining injuries requiring some type of treatment. This is 7% lower than the 162 injuries that were recorded during FY15.

Most of the injuries were minor. However in FY16, IGO's people experienced 33 injuries that required medical treatment, time off work or people being assigned to alternate duties; up from 18 in FY15. While IGO experienced no fatalities, we did have one serious injury where a contractor broke his leg while unhitching a truck trailer; an injury that required many months of recuperation.





IGO's lost-time injury frequency rate (LTIFR) was 3.9 injuries per million hours worked by our employees and contractors in FY16. These results are higher than the most recently published averages for the Western Australian gold mining and nickel mining sectors which have a reported LTIFR of 2.5 and 3.3 respectively (refer to [www.dmp.wa.gov.au/Documents/Safety/MSH\\_Stats\\_Reports\\_SafetyPerfWA\\_2014-15.pdf](http://www.dmp.wa.gov.au/Documents/Safety/MSH_Stats_Reports_SafetyPerfWA_2014-15.pdf)).

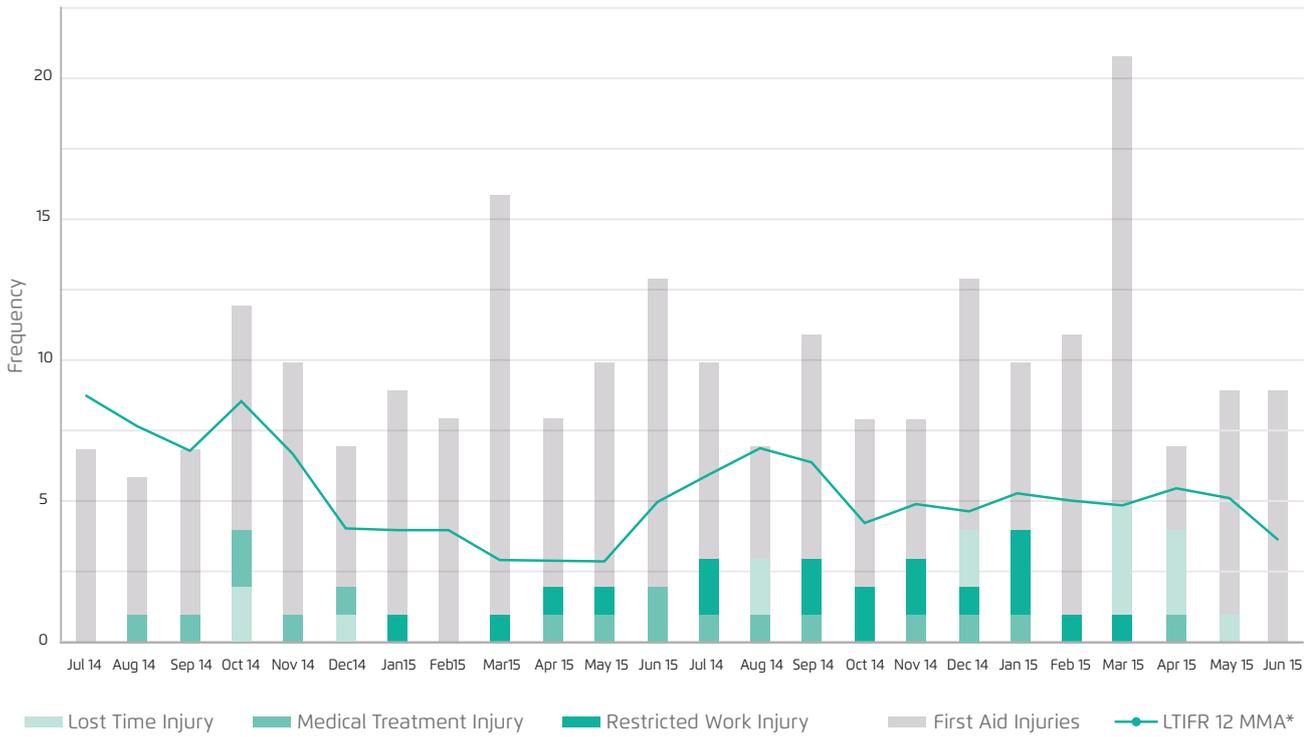
In FY16, IGO had 16 new workers compensation claims, compared to 27 in FY15. Thirteen were unresolved as of 1 July 2016.

Site	New Workers Compensation Claims	LTIs	RWIs	MTIs	First Aid Treatment Injuries	Totals (excluding Workers Compensation Claims)
Long Operation	0	1	5	0	8	14
Jaguar Operation	15	3	13	2	63	81
Nova Project	1	1	4	4	17	25
All other	0	1	0	0	2	3
<b>Total for IGO</b>	<b>16</b>	<b>6</b>	<b>21</b>	<b>6</b>	<b>90</b>	<b>123</b>
Tropicana Gold Mine	NA	2	9	6	134	151
<b>Total</b>	<b>16</b>	<b>8</b>	<b>30</b>	<b>12</b>	<b>224</b>	<b>274</b>

IGO acknowledges that the significant injuries were painful and caused distress to the injured people, their workmates and their families. We are not satisfied with our overall safety performance. Our clear objective is to improve, and significant organisational effort is being applied to this end. Our goal is to have no significant injuries (defined as any injury requiring medical treatment or time off work).

LTi – Lost-Time Injury – Injuries that result in individuals not being able to work for a time. Restricted Work Injuries – injuries that require an individual to do something other than their normal job. MTi – Medically Treated Injuries – An injury requiring medical treatment.

FIGURE 19  
 IGO INJURIES AND INJURY FREQUENCY RATES



\* 12 MMA = 12-month moving average

## SAFETY CASE STUDY: JAGUAR OPERATION – LEADERSHIP DEVELOPMENT

Knowing that our leaders have the greatest impact on the success of our safety performance, Jaguar Operation recognised that upfront development of their frontline leaders was needed before they could expect substantive improvement in their safety performance. To drive this improvement, Jaguar Operation is championing IGO’s business-wide Visible Safety Leadership Program. In essence, this encourages leaders to be more actively engaged in safety management through employee interactions.

The program provides participants with feedback from their staff, peers and manager who provide perceptions of their strengths and weaknesses. It then engages participants in an interactive analysis of the outcomes, resulting in the identification of opportunities for behavioural improvement. Our initial results have been very encouraging.

Twelve of Jaguars’ leaders were enrolled in the independent Safety Leadership Development Program in FY16, with further leaders across the business to be identified in FY17.





Our intention is to manage our work environment in a way that effectively minimises the exposure of our people to hazards that have the potential to cause long-term or chronic health impacts.

## OCCUPATIONAL HEALTH

Occupational health management has many facets. Our intention is to manage our work environments in a way that effectively minimises the exposure of our people to hazards that have the potential to cause long-term or chronic health impacts. Some hazards are readily managed while some are intrinsically difficult to manage. Specifically, IGO is required to:

- determine what our people are actually and potentially exposed to, and assess the risk that these exposures create
- determine how best to protect our people from these exposures (known as 'controls')
- confirm whether or not the controls have been implemented and are effective, and if they are not, take remedial action
- document the above activities in a Hygiene Management Plan, execute the plan, review the results achieved, and update the plan accordingly.

During FY16, IGO completed various tasks defined in its Occupational Exposure Monitoring Program (known as CONTAM in Western Australia). No material excess exposures of any type were identified. In FY16, IGO had no claims for industrial disease.

IGO has commenced an occupational hygiene improvement program which continues into FY17.

# COMMUNITY CASE STUDY:

## BUNDARRA CONTRACTING

Bundarra Contracting Pty Ltd is 100% owned and operated by Aboriginal people local to the Goldfields Region of Western Australia. It provides earthworks, labour hire, haul road construction, and fencing services to the mining industry. Since 2001 it has grown from a two-person part-time contract mustering goats and fencing to a thriving company with 25 employees at five different work sites including our Jaguar Operation. Bundarra Contracting is dedicated to developing a local Indigenous workforce operating in the northern goldfields of Western Australia, and IGO is pleased to have Bundarra involved in its business.

Bundarra Contracting is dedicated to developing a local Indigenous workforce operating in the northern goldfields of Western Australia

**\$8M**  
contract with  
Bundarra





## COMMUNITY CASE STUDY:

### ESPERANCE COMMUNITY CONSULTATION PROCESS

The historic transport and bulk handling of heavy metals through the town of Esperance and at the Port of Esperance by parties other than IGO at various times over the past 40 years has caused pollution. In particular, the transport and handling of lead carbonate from the Magellan Metals Pty Ltd mine prior to 2007 resulted in significant impacts. These included both terrestrial and benthic lead pollution, elevated blood lead levels in community members, and bird deaths (refer to the Western Australian Government's 'Inquiry Into the Cause and Extent of Lead Pollution in the Esperance Area', ISBN: 978-1-921355-19-6). Circumstances leading up to the Inquiry, the Inquiry itself, and the subsequent multi-year clean-up has sensitised the Esperance community to proposals for future heavy metal shipping through the port, and has created an entirely reasonable demand that any such future activities should be both managed and regulated with real care. It is within this context that it is noteworthy that IGO intends shipping nickel and copper concentrates produced at Nova, in part, through the Port of Esperance.

The Port of Esperance has approval to complete a trial of five shipments of IGO concentrates. This is likely to commence in January 2017. IGO's stevedoring contractor, Qube, will use sealed, half-height, purpose built containers to transport concentrates from Nova to Esperance. The containers will remain sealed as they are lifted into the ship's holds.

The crane's lifting device enables automated container lid removal, container rotation for the tipping of contents, and lid replacement, all of which happens in the ship's hold. A purpose-built fogging system will be employed to prevent fugitive dust emissions. Given the demonstrated performance of these systems at other ports, IGO is entirely confident that our product can be shipped within the conditions of the Port's operating licence and without any credible risk to the community or environment.

Given the above issues, IGO (and Sirius before us) have completed various stakeholder engagement activities, including two widely publicised and well attended public meetings in Esperance and one in Norseman. In FY16 IGO, in collaboration with the Port of Esperance, commissioned the completion of an independent baseline soil contamination survey along our planned transport route and at the Port of Esperance to establish pre-existing soil contamination levels. This document is publicly available and was provided to the Western Australian Department of Mines and Petroleum (refer to the IGO website: [www.igo.com.au](http://www.igo.com.au)). Further, in addition to air monitoring completed by the Ports Authority, in May 2016, IGO has established a number of high-volume air sampling devices to gather baseline particulate and metals data. This information will be publicly available on our website.



## IGO CORPORATE GIVING

In line with IGO's values and Community Policy, in FY16 we established a public position on Corporate Giving. This document is known as Group Community Standard 1 – Corporate Giving (refer to [www.igo.com.au](http://www.igo.com.au)).

The nature of IGO's Corporate Giving takes two general forms, being cash and 'in-kind' donations. Cash donations take the form of either direct donations and an employee donation-matching scheme. The employee donation-matching scheme includes both dollar-for-dollar and time-dollar equivalents. 'In-kind' donations generally include the donation of IGO resources or assets.

In general, IGO's Corporate Giving is focused on supporting schools, charities and other not-for-profit organisations that improve the quality of life of their beneficiaries. IGO's Corporate Giving is deliberately focused on targeted beneficiaries; these being organisations that:

- support and improve the education of children in our host communities
- support and improve the health and well-being of members of our host communities
- enhance, protect or rehabilitate the environment local to our host communities.

IGO's host communities include those towns in closest proximity to our operating mines and major exploration projects.

IGO's annual Corporate Giving budget is calculated using 0.06% of total forecast revenues. This data is reviewed annually in comparison to Corporate Giving data published by LBG Australia (refer to [www.lbg-australia.com](http://www.lbg-australia.com)). Based on the data available for the period 2006 to 2015, IGO's Corporate Giving equates to approximately 75% of the average Corporate Giving expenditure reported by the cited companies in the LBG study based on percentage of total revenues. This 75% level has been and remains IGO's intended comparative target.

## COMMUNITY DEVELOPMENT AND ASSISTANCE PROGRAM

IGO has a Community Development and Assistance Program (CDAP) funded through IGO's Corporate Giving. The Community Development and Assistance Program includes those charitable projects where IGO has made a multi-year support commitment. IGO's current CDAP projects include:

- **Teach, Learn, Grow**

Teach, Learn, Grow is a volunteer-based tutoring program that sees university students give up their vacation time to spend one or two weeks, twice a year, in rural and remote schools throughout WA. IGO sponsors the 'Teach, Learn, Grow' team to work with primary school students in Coolgardie, Kalgoorlie, Esperance and Boulder. The tutors engage in pre-service training and work in teams to provide assistance to both teachers and students. This program has been expanded in 2016 to include work in Esperance, and in 2017, will be extended to Norseman. IGO continues to receive positive feedback from all parties involved in the program.

- **Leonora District High School's Young Leaders, Healthy Lifestyles and Bush Garden**

At the conclusion of FY16, IGO had supported the development of a strong cohort of young leaders through a comprehensive leadership program as a means of developing their skills to become major contributors and leaders within the Leonora District High School and wider community environment. The program focused on the importance of leadership, the critical role of good communication and the ways in which students could act on their leadership aspirations.



**\$221k**  
donated to  
communities

In general, IGO's Corporate Giving is focused on supporting schools, charities and other not-for-profit organisations that improve the quality of life of their beneficiaries.

- **The Kambalda West District High School Youth Leadership Program**

IGO has had a long-term commitment to support the development of youth leadership skills at Kambalda West District High School. The Youth Leadership Program promotes school attendance and achievement, and encourages students to explore their vocational options. It also supports the liaison with community groups and the local shire to plan community improvement projects and social events. Staff have commented on the program's positive impact on student confidence and contributions to both the school and local community.

- **The Norseman District High School Youth Leadership Program**

In FY16, IGO commenced funding a youth leadership skills program at Norseman West District High School. The Youth Leadership Program promotes school attendance and achievement, and encourages students to explore their vocational options. It also supports the liaison with community groups and the local shire to plan community improvement projects and social events.

- **The Aboriginal Student Scholarship Program With Mt Lawley Senior High School**

Perth's Mt Lawley High School has developed a scholarship program to provide Aboriginal students with a sound academic aptitude the opportunity to attend a premier high school in Perth. Participating students receive mentoring intended to lead them to tertiary education or vocational study. The program provides individual learning plans, homework classes, tutors, access to the adjoining facilities at Edith Cowan University, cultural excursions and completion of a relevant research assignment.

In FY16, IGO concluded a five-year partnership with Perth's Mt Lawley High School to enable us to redirect funding to our host communities. IGO is very proud of the success of this program and we are assured of its ongoing success given the school has found other supporting partners.

- **Millennium Kids**

IGO has also sponsored Millennium Kids to provide training to Ngadju children including Kids On Country training. This training pairs elders with children in the Ngadju Conservation Ranger team to highlight indigenous employment opportunities through conservation, cultural training and tourism. The sponsorship also includes an On Country Camp that will bring together 20 young Ngadju people teaching them to manage fires in camp, proper waste disposal, food preparation and handling, and tracking malleefowl.

## WA MINING CLUB SCHOLARSHIPS

IGO is a proud supporter of geology and Aboriginal scholarships through the WA Mining Club.



native title  
respecting traditional owners

## TRADITIONAL LAND USE

Our existing operations are located on lands with either claimed or determined native title by various Aboriginal groups including the Koara, Ngalia, Wutha, Wongatha, and Ngadju peoples.

IGO's activities are predominantly located in Australia and specifically within Western Australia. While our exploration activities do extend overseas, the scale and impact there is relatively small. Irrespective of where we work, we are mindful of our responsibilities in respect of the Traditional Owners on whose land we seek to operate. In most jurisdictions, the nature of land title varies, as does the nature of the invested entities; e.g. governments, institutions, groups and individuals. Within the Australian context, Traditional Owners are key stakeholders.

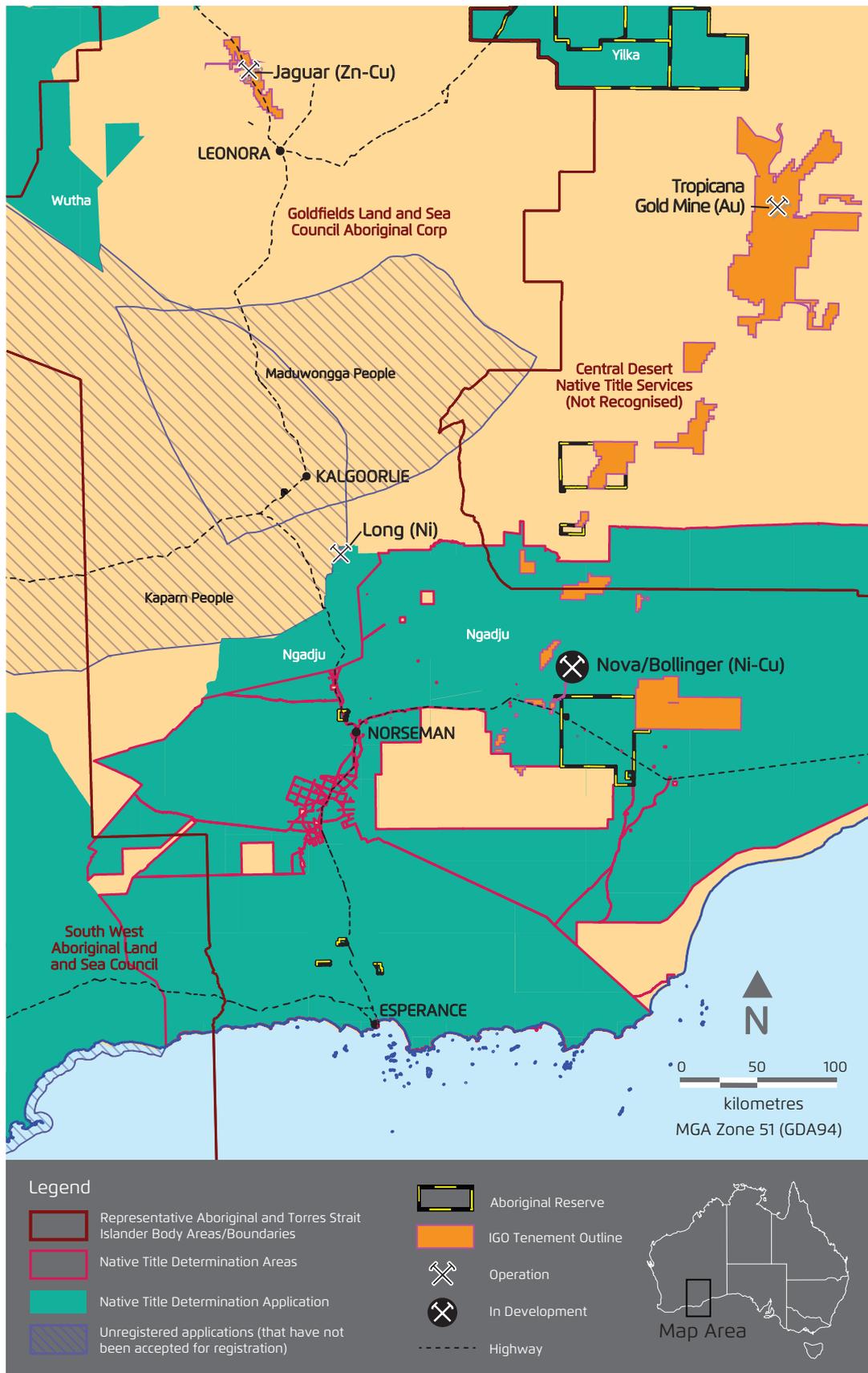
Our existing operations are located on lands with either claimed or determined title by various Aboriginal groups including the Koara, Ngalia, Wutha, Wongatha, and Ngadju peoples.

Figure 20 illustrates the locations of our operating mines, relative to traditionally-owned lands.

As noted previously, our joint venture exploration activities in Scandinavia are situated on lands owned by the Sami people.

Irrespective of the nature of the title, IGO seeks to operate with due regard and respect for Traditional Owners. In circumstances where our activities progress to the point where a mine is established, IGO seeks to ensure the socio-economic benefits of the mine are shared by the Traditional Owners and negative impacts are minimised.

FIGURE 20  
NATIVE TITLE AREAS





## beyond compliance

living our values

### NATIVE TITLE

In accordance with the *Native Title Act 1993*, various lands are subject to native title claims and determinations. IGO operates in accordance with the law and in close collaboration with our stakeholders, some of whom are Traditional Owners. The following outlines the status of claims as they affect IGO operations.

### NOVA PROJECT

As part of the Nova Project's development, Sirius sought to secure a land access agreement over the mining and related tenements with the Traditional Owners, the Ngadju people. No determination had been made and Sirius and the Ngadju people entered into the Ngadju Mining Agreement. This agreement contains an acknowledgment that the Ngadju are the Traditional Owners of their claim area and have a legitimate interest. It also sets forth a range of benefits that Sirius, and subsequently IGO, will provide to Ngadju in return for which the Ngadju granted various consents to enable approval of the mine. Subsequent to signing this agreement. In November 2014, the Federal Court of Australia handed down a determination that native title exists over an area that includes the Nova Project.

### LONG OPERATION

The Long Operation is also subject to a native title claim by the Ngadju people. Proceedings were brought in the Federal Court of Australia by the Ngadju in relation to a parcel of land containing a number of mining tenements adjacent to the three tenements held by the Long Operation. The Federal Court found that the re-granting of these tenements did not comply with the right to negotiate process prescribed under the *Native Title Act 1993* and, as such, those affected tenements were deemed invalid in so far as they were inconsistent with the Ngadju people's native title rights. The judgment was appealed to the Full Bench of the Federal Court by the State of Western Australia and other affected parties. In March 2016 the Full Bench of the Federal Court upheld all grounds of appeal, effectively reversing the finding of invalidity made by the Judge at first instance. The Ngadju people have since filed an application for special leave to appeal before the High Court of Australia, which is listed for consideration on 7 October 2016. The final outcome of this decision may impact or delay IGO's planned exploration, development or production activities at Long. However it will not affect access to the main decline (i.e. the mine access tunnel) at Long, which is located on freehold land. The Company will continue to closely monitor the matter.

## TROPICANA GOLD MINE

The Tropicana Gold Mine is wholly within the area of the former Wongatha Native Title Claim (WC99/001). This claim was dismissed by the Federal Court in 2007. Notwithstanding this, Tropicana continues to work constructively with the Traditional Owners.

## JAGUAR OPERATION

At present, there are no registered native title claims over the tenure on which the Jaguar Operation is located. However, various parties have a connection with that country, including the Koara, Ngalia, Wutha, and Wongatha peoples.

## HERITAGE PROTECTION

At each of our operating mines, our projects and our various exploration sites, sites of historical or heritage significance have been identified. Over time, other new sites may be identified. IGO has clear protocols around land disturbance and acts in accordance with the law. As required, IGO seeks to engage Traditional Owners to ensure the effective and culturally sensitive management of significant sites.

In FY16, no significant sites were disturbed accidentally or otherwise.

In FY16, IGO entered into no new land access agreements.

## STATUTORY COMPLIANCE

IGO has a governance process for identifying statutory non-compliance as well as non-conformance with IGO policies and procedures. These improvements will see systematic audits to objectively verify conformance with our sustainability standards and legal requirements, as well as provide recommendations to improve our sustainability performance. Work continues to improve this process.

In FY16, IGO received no fines or non-monetary sanctions.

FY16, IGO received six notices from the Western Australian Department of Mines and Petroleum Resource Safety Branch. These required various modifications to our systems to further improve workforce safety. All corrective actions associated with these improvement notices are either complete or on target for completion by the due date.

### IMPROVEMENT NOTICES

Site	Improvement notices	Prohibition notices	Remediation notice	Environmental notices
Long	1	0	1	1
Jaguar	2	1	0	0
Nova	1	0	0	0
<b>Total</b>	<b>4</b>	<b>1</b>	<b>1</b>	<b>1</b>

In FY16, IGO received one improvement notice in respect of environmental performance at our Long Operation. Saline aerosol emissions from a mine raise bore resulted in nearby tree deaths. IGO has completed works to minimise this ongoing impact.

In FY16, IGO's internal processes identified a range of minor non-compliances with our policies and procedures. While these are important to the effective management of our business at an operational level (and corrective actions are pursued to completion), none were regarded as material from the perspective of IGO as a whole, nor were any material to our external stakeholders beyond those addressed above.

## AUGUST 2013 DIESEL SPILL AT TROPICANA

On the night of 5 August 2013, the power station at the Tropicana Gold Mine experienced a power outage which impacted on a data link between the diesel tank level sensors and the diesel transfer pump at the site's bulk diesel storage facility. Subsequently, when power was re-established, the transfer pump auto-started, and fuel transferred to a day tank, which overflowed into a containment bund. The bund then overflowed and released diesel into the adjacent cleared area within the plant site.

It is estimated that approximately 192,500L of diesel was spilt, of which 103,000L was immediately recovered, while the rest was lost to ground. No diesel was released off site or into waterways, however, it is estimated that some 8,000m<sup>3</sup> of soil was contaminated affecting an area of 5,430m<sup>2</sup>. The subsequent site clean-up including groundwater and diesel recovery, and works to prevent a recurrence, was completed at a cost of \$1.23 million. Remediation of contaminated materials continues both in situ and at the purpose built bioremediation facility on site.

AngloGold Ashanti, as manager of the Tropicana Gold Mine, was issued with a Modified Penalty Notice on 27 July 2015 by the WA Department of Environment Regulation under section 50B (2) of the *Environmental Protection Act 1986*. The modified penalty was \$50,000. In August 2015, this matter was raised in Western Australia parliament in response to questions, and resulted in limited local media attention, and subsequent questions from some of IGO's community stakeholders.

## STAKEHOLDER FEEDBACK

In FY16, IGO received no material or re-occurring complaints from any of our stakeholders in respect of nuisance or harm that we were seen to have caused.

The public stakeholders with which we continue to be most actively involved, and those that provide IGO with most feedback, are the Traditional Owners of the land on which we operate and our host pastoralists. IGO endeavors to be responsive to concerns raised, and we are confident that we have established positive and effective working relationships.



respecting the environment  
managing our impact

# ENVIRONMENTAL IMPACT

This section covers environmental aspects that are deemed to be of material significance to IGO's sustainability performance.

IGO identifies these material aspects on an ongoing basis by means of environmental monitoring, risk assessments, environmental reporting (both internal and external), and compliance review.

50kt

CO<sub>2</sub>-e generated

## BEING ENVIRONMENTALLY RESPONSIBLE

"I work daily with internal and external stakeholders to ensure we minimise our environmental impact at an operational level. We know mining has an environmental impact, it's about working together and continuously educating our people to manage our impacts."

Melayna Eggington  
Environmental Officer, Jaguar Operation





progressive rehabilitation  
minimising our disturbance

61ha  
land rehabilitated

## ENVIRONMENTAL CONDITIONS

Australian jurisdictions will generally impose conditions on any mining tenement for the purpose of preventing or rectifying environmental harm. These conditions operate concurrently with the terms of any relevant environmental approvals issued under relevant federal, state or territory environmental laws. At present, IGO is developing an Obligations Register; a tool used to systematically capture the environmental conditions associated with both our tenements, obligations arising from environmental approvals and other public commitments. It is anticipated that this task will be completed by the end of FY17.

## LAND AND BIODIVERSITY MANAGEMENT

In late FY16, the Western Australian Department of Mines and Petroleum released an update on its requirements in respect of the submission and nature of 'mining proposals', with the Department moving towards a risk-based model. Another significant change is the development of a whole-of-site mining proposal, which would be progressively updated if operations were to change. The Department has given a six-year grace period for all operations to use the updated guidelines. IGO aims to update each of Jaguar, Long and Nova mining proposals within this period when each operation triggers a mining proposal submission.

### TROPICANA GOLD MINE

During the 2016 calendar year, 304.6ha of land was cleared at the Tropicana Gold Mine, primarily for the expansion of the waste rock dump, open pits, growth medium stockpiles, haul roads and marginal ore stockpiles. During the same period, no rehabilitation was completed.

### LONG OPERATION

During the FY16 no disturbance and no further rehabilitation was completed at Long Operation.

### JAGUAR OPERATION

At the Jaguar Operation, during FY16, no additional land was disturbed. Further to this, rehabilitation of 1.6ha was completed in FY16.

Exploration efforts surrounding the Jaguar Operation, including diamond drilling, resulted in clearing of 0.14ha. Due to the reduction in exploration in FY16, open drill sites were rehabilitated resulting in a total of 1.1ha being rehabilitated.

### NOVA PROJECT

As the majority of land disturbance at the Nova Project occurred in FY15, FY16 saw only minimal disturbance totalling 18.7ha. A large portion of this was for the processing plant and tailings storage facility, as well as other supporting infrastructure. A total of 34.28ha was rehabilitated in the reporting period.

## EXPLORATION

As IGO's Stockman Project is currently in the approvals stage, no land clearing has occurred.

IGO's regional exploration operations around Australia created a disturbance footprint of 82.89ha. Generally, all land disturbance is rehabilitated within six months of the initial disturbance occurring.

Exploration project:	Land disturbed	Land rehabilitated
	FY16 (ha)	FY16 (ha)
- Lake Mackay	6.54	1.5
- Alchemy/Bryah	2	2
- Salt Creek	70.81	17.81
- Fraser Range	3.54	2.41
- Total	82.89	23.72

## FLORA AND FAUNA

IGO is committed to understanding and protecting the flora and fauna communities at each of its operations and project sites. IGO currently monitors its impacts on vegetation near its mining operations to understand its ongoing impact post-approval of mining activity by means of comparative photography at pre-defined photo-monitoring survey points. Impacts to fauna are measured through periodic surveys which are triggered by the stage of the project or a proposed modification to an existing operation.

### TROPICANA GOLD MINE

The Tropicana Gold Mine is located on the western edge of the Great Victoria Desert, a region dominated by sandplains, sand hills and sand dunes covered with Marble Gum (*Eucalyptus gongylocarpa*), Mallee (*Eucalyptus youngiana*) and Spinifex (*Triodia basedowii*).

The sand plain communities surrounding the Tropicana Gold Mine have an extremely high small-vertebrate diversity with more species of terrestrial reptiles and mammals per hectare than anywhere else in Western Australia.

Monitoring vegetation condition and abundance is required on an annual basis at Tropicana in accordance with the mine's approval conditions. The results are reported in the Tropicana Gold Mine annual environmental report. The 2015 survey found no decline in overall vegetation cover or condition.

Tropicana Gold Mine also completes an extensive fauna monitoring program and supports regional fauna research. The program includes monitoring at both the site's six artificial water ponds and the tailings storage facility. The artificial water ponds were established to provide preferential water sources to the site's tailings storage facility to minimise fauna deaths that could occur if fauna use the tailings liquor as a water source. The liquor poses a hazard to fauna because it contains low concentrations of a toxic processing reagent (weak acid dissociable cyanide).

### LONG OPERATION

The area surrounding the Long Operation is dominated by Eucalyptus woodlands and halophytic low shrublands associated with the shores of Lake Lefroy. The Long region is subject to extreme temperatures and periodic rainfall as is common to the Goldfields Region of Western Australia.

The area within and surrounding the Long Operation has been subject to mining activities for over 35 years. This has resulted in clearing for the construction of infrastructure, waste rock dumps, tailings storage facilities, processing plants, open pits and underground mines. The proximity of the Long Operation to the town of Kambalda and the historic public land use of the surrounding area has also contributed to the degradation of the local environment.

### JAGUAR OPERATION

At the Jaguar Operation, in addition to the historic impact of past mining activities, the mining leases and surrounding pastoral properties have been impacted by both cattle grazing and a range of feral animals and introduced weeds. Of note are the large populations of introduced goats, dogs, cats and rabbits. The land surrounding the Jaguar Operation is dominated by mulga woodlands and flora typical of the regions ephemeral creek lines.

Field fauna survey data at the Jaguar Operation recorded 57 bird species, eight native and four introduced mammals, 23 reptiles and four amphibians. A desktop analysis of potential fauna distributions identified two mammal, one reptile and eight bird species of conservation significance that could be present in the area due to the presence of suitable habitat. However, a number of these species are now thought to be locally extinct as there have been no sightings since the early 1980s. Conversely, anecdotal evidence (increased sightings of breeding pairs) suggests there has been an increase in the population of birds of prey around Jaguar.

Photos collected over the life of the Jaguar Operation have shown no deterioration in plant health at the established monitoring points. In the coming year IGO will complete general flora and fauna surveys to assess changes that may have occurred since the last set of surveys.

### NOVA PROJECT

The Nova Project is within the Great Western Woodlands, an area of high biological richness that comprises almost 16Mha, extending from the edge of the wheatbelt to Kalgoorlie-Boulder in the north, to the inland deserts and the Nullarbor Plain to the east. The project is situated approximately 80km from the eastern edge of the Great Western Woodlands and the project area represents 0.03% of its total area.

A number of field surveys were conducted during the feasibility phase of the project to inform the approval process and assist with protecting the flora and fauna within the project area. A total of 45 vegetation communities were mapped in the study area, comprising 28 Eucalypt woodland communities, 13 mixed shrublands and scrub communities and four hummock grasslands communities. A total of 142 vertebrate fauna species including 40 reptile, 82 bird and 20 mammal species were recorded during the field surveys during the feasibility phase of the Nova Project.



## ENVIRONMENTAL CASE STUDY:

### SOLAR FARM AT NOVA

The Nova Project receives some of the highest solar radiation anywhere in Australia and this makes it an excellent location for the use of solar energy technology. IGO investigated renewable energy opportunities for the project and is considering the installation a 6.7MW solar photovoltaic (PV) facility to supplement the diesel powered generators.

The projected fuel savings achieved by the addition of the PV farm could reduce the annual site emissions by up to 7,994t of CO<sub>2</sub>-e.

At the time of writing, IGO's contractor Zenith Pacific Pty Ltd were awaiting the outcome of a grant application to Australian Renewable Energy Agency (ARENA). If successful, IGO will proceed with construction of the facility.

In the event that the grant application is unsuccessful, we will proceed when the project's economics justify such a decision.





## understanding our impacts

### targeted research programs

## ENVIRONMENTAL MANAGEMENT PLANS

IGO uses site-specific Environmental Management Plans (EMPs) to define and direct environmental management activity. This includes environmental statutory compliance, the identification of environmental aspects and the monitoring of environmental impacts. Environmental performance is reported each year to the respective government departments in the operation-specific annual environmental reports.

IGO's land and biodiversity management practices are compliant with the law and in line with that of other mining companies. IGO's impacts are limited and confined, and represent a tiny fraction of the cumulative impacts associated with the mining industry as assessed by all credible metrics. However, we have both the capacity and intention to improve our performance – particularly in the area of ongoing impact assessments on flora and fauna.

## TRANSPORT

The impact of truck traffic on regional road users is a matter of reoccurring public comment. We take our stakeholder feedback seriously and investigate and monitor transport impacts as required.

The Jaguar Operation receives a minimum of 78 trucks per year, which travel approximately 900km from Perth to site, passing through several towns including Northam, Southern Cross, Kalgoorlie, Menzies and Leonora. Our contribution to the impacts created by vehicle movements through these towns is minimal.

The Long Operation receives approximately 260 delivery trucks a year, the majority from Kalgoorlie, located 57km north. The trucks pass close to Kambalda east and west, however the impact of dust and fuel emissions is minor as the road does not pass directly through the towns. As the area has been mined for more than 50 years homes have not been established near the infrastructure.

It is noteworthy that Tropicana now receives only approximately 60 trucks a month (reducing the number from approximately 160 required before completion of a gas pipeline). The majority of trucks travelling to Tropicana come from Perth or Kalgoorlie resulting in distances driven ranging from 350km to 1,250km. They pass through several towns including Northam, Merridin and Southern Cross on their way to Kalgoorlie. From Kalgoorlie, the trucks use the Tropicana access road, which runs for approximately 350km and does not impact any local towns.

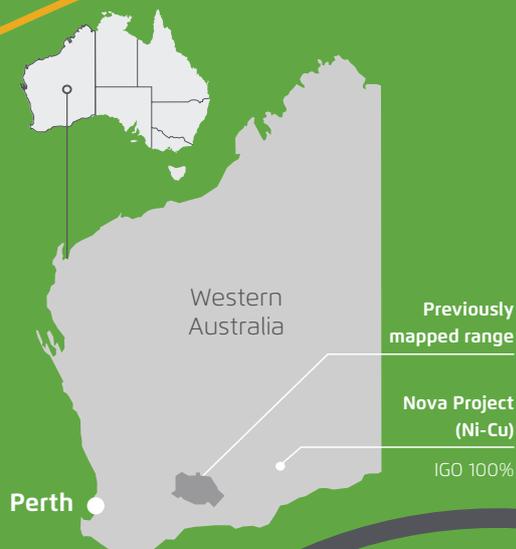


## ENVIRONMENTAL CASE STUDY:

### LAKE CRONIN SNAKE (*Paraplocephalus atriceps*)

The mining industry supports a significant proportion of all ecological monitoring completed in remote parts of Australia. The industry funds many hundreds of annual flora and fauna surveys. Sometimes this work turns up something special. In late 2015, a volunteer at the Nova site recovered an unusual snake from the Nova Project village which, from a blurry photo taken on the night, was subsequently identified as potentially being a Lake Cronin Snake. The next snake caught matching the description was shipped back to the WA museum for formal identification.

The Western Australian Museum confirmed the snake as the Lake Cronin Snake (*Paraplocephalus atriceps*). Previously it was known to have a limited distribution around Lake Cronin, approximately 300km west of Nova. As the Museum only had four other specimens on record they were very happy to receive this find. There is sparse knowledge of the Lake Cronin Snake due to its isolated population. This new population is a significant extension of its range. IGO's work provides an opportunity to make further contributions to the knowledge of this species. This find is a credit to the passion of the people involved with Nova in caring for the environment, preserving habitat and taking an interest in our fellow residents.



## WASTE MANAGEMENT

The two largest waste streams produced at IGO's operations are waste rock and tailings. At the Jaguar Operation and Nova Project, both are produced, whereas the Long Operation produces only waste rock. The waste rock is stored and managed in accordance with Department of Mines and Petroleum guidelines to minimise its potential to cause environmental impact and ensure the effective rehabilitation of our mine sites both progressively and at closure.

### WASTE ROCK

#### TROPICANA GOLD MINE

During the 2015 calendar year, the Tropicana Gold Mine produced 477Mt of waste rock.

At each of the sites, a small quantity of waste rock that is known to be non-acid forming is crushed for use as road base, bunding and for other operational purposes.

#### LONG OPERATION

The main waste product at the Long Operation is waste rock, of which 49,830t was brought to the surface. This rock is planned to be used during mine closure efforts for IGO, with remaining material available for BHPB and the rehabilitation of their tailings storage facility on our tenement.

#### JAGUAR OPERATION

In FY16, a total of 187,703t of waste rock was mined from the Jaguar Operation's Bentley Mine.

The Jaguar Operation waste rock dumps have been designed, and are being constructed, so the potentially acid-forming material is blended with neutralising waste rock and then placed on top of the waste dump which minimises run-off and leaching. The risk of acid mine drainage is further mitigated through the use of the Bentley underground mine waste rock in the cement aggregate fill plant, which pumps it back underground. At present, it is predicted that all waste rock extracted from the Bentley underground mine will be placed back underground in the form of cement aggregate fill prior to mine closure. As mining activities in the Jaguar underground mine have now ended, no waste rock has been removed in the reporting period. All waste rock removed in the past has been formed into the Jaguar waste rock dump, which has now been partly rehabilitated.

## TAILINGS

All IGO tailings storage facilities undergo an annual audit to ensure they are operated in accordance with the mine's operating strategy, safety conditions, prescribed premises conditions, and mining tenement conditions.

The Tropicana Gold Mine has a single cell tailing storage facility where all tailings from the Tropicana processing plant are deposited. In the 2015 calendar year, Tropicana deposited 6.6Mt (dry) of tailings into its storage facility.

In FY16, the Jaguar processing plant produced 393,640t of dry tailings which was deposited into TSF2. As required by tenement conditions, both the disused TSF1 and the operational TSF2 were inspected and an audit report was produced by a qualified engineer. The recommendations for both tailing storage facilities included preventative maintenance measures which have since been completed.

The Long Operation uses tailings from St Ives Gold Mine to produce a paste backfill material that is used to re-fill mined underground voids. In FY16, Long Operation used 69,859t of tailings to produce 72,020t of paste; an increase from the 63,711t of tailings used in FY15.

## WATER MANAGEMENT

Water is a key consideration in IGO's mining activities. Its many uses include in exploration drilling, in the mining process, in ore processing, in our camps, and in dust suppression. Water is variously extracted from underground mines and dedicated borefields. The uncontrolled release of water and process solutions can have unintended safety and environmental impacts. Consequently, the management of water is central to the sustainability of our operations.

At our Jaguar Operation, as required by our groundwater abstraction licence, a Groundwater Monitoring Review for the previous three years was completed during FY16. The review was undertaken by RPS Aquaterra and submitted to the Department of Water. The report highlighted the predicted reduction in groundwater level in the Wendy's Borefield near the Bentley underground mine. Further study into the significance of this and an impact, if any, on mine dewatering practices is planned for FY17.



## TROPICANA GOLD MINE

The Tropicana Gold Mine has four groundwater licences permitting abstraction of groundwater in the area. This is managed in accordance with an operating strategy approved by the Department of Water. During FY16, a total of 7.5GL of water was abstracted from operational bores and the process water supply borefield. The water is used for processing, road maintenance and dust suppression. A series of flow meters are installed to accurately monitor water use, all pipelines are bunded to prevent spills passing into the environment.

Groundwater monitoring programs are in place to measure the effect (if any) that abstraction is having on the surrounding water table (level and chemistry). During FY16, the standing water levels were variable but remained stable, although there were some exceptions which saw significant decreases in standing water level likely due to increased abstraction rates. No significant change in water quality was observed.

Surface water monitoring is also undertaken at Tropicana to determine the effectiveness of the site's surface water management infrastructure following significant rain events. The test results indicated that surface water management on site was effective.

## LONG OPERATION

Long Operation's water abstraction is also controlled under a groundwater licence. Water extracted from the mine is used primarily for dust suppression and underground mining purposes. Excess water is pumped to the surface, held in settling dams to remove sediment, and then discharged onto Lake Lefroy. Water use and discharge volumes are accurately measured using a series of flow meters throughout the site to ensure authorised water abstraction entitlements are not breached.

The groundwater at the Long Operation is hypersaline and is toxic to plants. Pipelines that contain hypersaline water must be properly bunded and inspected to ensure no significant spills occur. A relatively small percentage of the groundwater is incidentally extracted as water vapour and mist from underground to the surface by the mines ventilation fans. The hypersaline water vapour emitted from the vent fans has, and continues to, pose a threat to surrounding vegetation. Long Operation has redesigned the vent fans to capture the hypersaline mist, ensuring it does not impact local vegetation.

In FY16, a total of 218ML was abstracted from groundwater sources, with a further 86ML purchased from BHPB. This water is reused in underground mining activities and in the paste plant, with the remaining water discharged onto the saltpan of Lake Lefroy.

Standing water levels and water chemistry monitoring is periodically carried out and the data is submitted in an annual groundwater monitoring summary to the Department of Water. The Department of Water reviews the report and provides any feedback to IGO. No concerns were identified by IGO nor were any raised by the Department in FY16.

## JAGUAR OPERATION

The Jaguar Operation is situated in a remote area and extracts all its required water from groundwater sources. Groundwater naturally seeps into our underground mines. The water is extracted from the mines to prevent them from flooding. Our water needs are supplemented by production bores situated throughout the mining tenement.

In FY16 a total of 1,111ML was abstracted from groundwater sources. This water is used in the processing plant, reused underground and for exploration activities. The remaining water is discharged into the historic Teutonic Bore pit. A significant amount of water is discharged into our active tailings dam.



Jaguar currently recovers a significant amount of water in tailings which is reused in the processing plant.

All groundwater abstraction is controlled under a groundwater licence issued by the Department of Water. The licence defines a maximum abstraction volume from varying sources around the site. A series of flow meters have been installed to accurately measure the volume of water used. This ensures we operate within our licence limits. The standing water level of each of the production bores and surrounding pastoral bores are periodically measured to assess the degree to which the underlying aquifers are affected. Of particular importance is Jaguar Operation's effect on the water table and water quality within the surrounding pastoral leases. Groundwater monitoring to date has found water levels are dropping in accord with the modelled outcomes. However, although water levels in some pastoral bores have dropped, it has not been to an extent that will have a detrimental impact on the pastoral lease.

IGO also carries out water chemistry analysis on samples taken on a quarterly basis at all production bores, pastoral bores and underground water reservoirs. The monitoring provides clear insight into the impacts of our activities on the areas groundwater chemistry. Monitoring to date has demonstrated that our activities have not caused any material changes to water chemistry beyond that predicted. Communications with pastoralists have confirmed that they have experienced no adverse outcomes on their properties.

All volumes, standing water levels and chemistry results are reported in an annual Groundwater Monitoring Summary (GMS) report, produced by a specialist hydrogeologist, and then submitted to the Department of Water for review. This report highlights any issues or environmental impacts abstraction may be causing. This year's report found no specific concerns relating to groundwater abstraction.

## ENERGY CONSUMPTION

Across all IGO managed operations (including exploration and corporate), a total of 926,386GJ of energy was consumed in FY16. Despite reducing energy consumption at our operating sites (Jaguar and Long) by 2% in FY16, the acquisition of Sirius and the inclusion of the Nova Project has increased our total energy consumption.

Energy consumption at IGO occurs primarily at Long, Jaguar and Nova (currently in construction). Purchased electricity is the largest source of energy consumption at Long, followed by diesel used in the underground mining fleet. Machinery and vehicle propulsion consume the greatest energy at the Jaguar Operation, in the form of diesel. Energy consumption at Nova is predominantly through diesel used to generate electricity and operate vehicles and machinery. Our Exploration teams have relatively low energy consumption, with only diesel use in vehicles and drill rigs. Figure 21 shows the percentage contribution of each identified 'facility' to the total amount of energy consumed.

## GREENHOUSE GAS EMISSIONS

Greenhouse gas (GHG) emissions and resulting global climate change is considered one of the most important issues in global environmental management. While IGO's emissions are relatively minor in comparison to other mining and industrial emitters, we understand that we all have a part to play. The total of Scope 1 and Scope 2 GHG emissions for all IGO facilities for FY16 was 65, 220t (CO<sub>2</sub>-e). The main source of GHG for IGO is the consumption of fuel (diesel) at Jaguar, Long and Nova.

Both operating sites have taken steps to reduce GHG emissions. Jaguar Operation installed a compressed natural gas-fuelled power plant to reduce diesel consumption and Long Operation is using 5% biodiesel blend for its mining fleet.



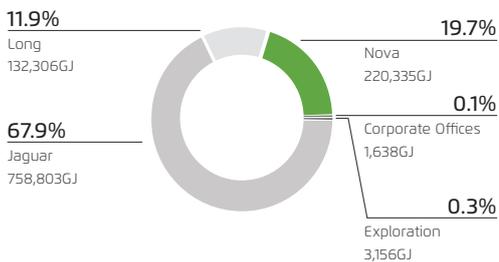
# water conservation

## reusing and recycling

**70k**  
tonnes of tailings reused

As the Nova Project is still in construction, energy efficiency is an ongoing consideration in the development of the Project, with a 6.7MW solar energy facility being considered for installation to reduce reliance on diesel powered energy generation. Figure 22 shows the breakdown of IGO's total GHG emissions into the percentage of Scope 1 and Scope 2. To clarify, Scope 1 emissions are direct emissions produced directly from sources that are owned by IGO (e.g. fossil fuels burned on site for electricity and in Company-owned vehicles). Scope 2 emissions are indirect emissions produced by the generation of electricity off site and purchased by the Company.

**FIGURE 21**  
ENERGY CONSUMED: 1,116,238GJ



(Energy Consumed Net: 926,386 t CO<sub>2</sub>-e)  
(Energy Produced: 189,852t CO<sub>2</sub>-e)

**FIGURE 22**  
GREENHOUSE GAS EMISSIONS



(Total Scope 1 and 2: 65,220t CO<sub>2</sub>-e)

Groundwater monitoring programs are in place to measure the effect (if any) that abstraction is having on the surrounding water table (level and chemistry).

## OTHER SIGNIFICANT EMISSIONS

IGO completes annual National Pollutant Inventory (NPI) reporting in accord with Australian law. The NPI is used to track pollution across Australia, and to ensure that the community has access to information about the emission and transfer of toxic substances which may affect them locally. The NPI contains data on 93 substances that have been identified as important due to their possible effect on human health and the environment.

In FY16, IGO key NPI reportable pollutants were:

<b>Carbon monoxide</b>		kg
Jaguar – Air Total		52,099
Long – Air Total		16,686
Nova – Air Total		71,347
<b>IGO Total</b>		<b>140,132</b>
<b>Oxides of nitrogen</b>		
Jaguar – Air Total		133,014
Long – Air Total		21,659
Nova – Air Total		201,535
<b>IGO Total</b>		<b>356,208</b>
<b>Sulphur dioxide</b>		
Jaguar – Air Total		159
Long – Air Total		21
Nova – Air Total		82
<b>IGO Total</b>		<b>262</b>
<b>Volatile organic compound</b>		
Jaguar – Air Total		5,651
Long – Air Total		1,638
Nova – Air Total		15,283
<b>IGO Total</b>		<b>22,572</b>

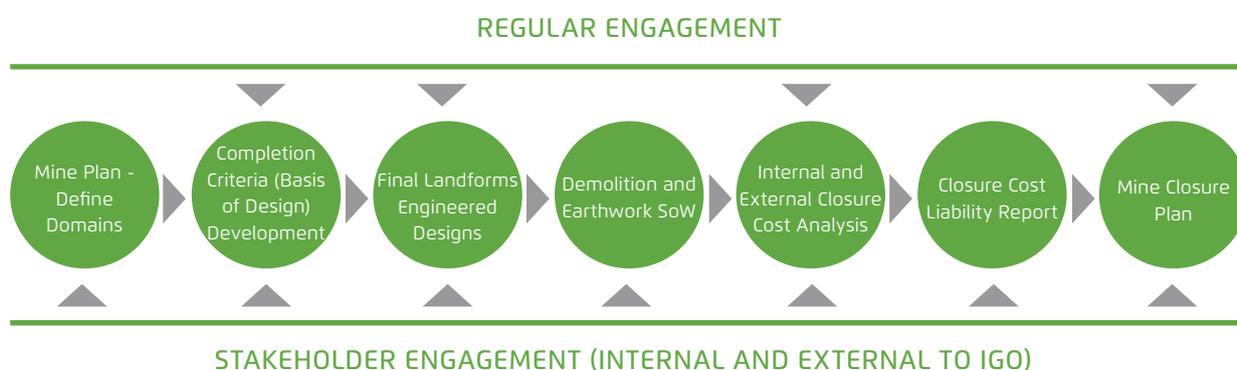
## MINE CLOSURE PLANNING

Closure planning is a complex process, with the planning horizon typically measured in decades. Planning for mine closure must consider social, economic, physical and biological parameters that generally change over the life of a mine. Difficulties associated with mine closure are often the product of poor initial planning. Consequently, closure planning is a matter for consideration during all stages of operation and particularly during a project's feasibility phase. Mindful of this, and in conformance with Western Australian law, IGO has Mine Closure Plans (MCPs) for both its Jaguar and Long operations, as well as the Nova Project. These were developed in accordance with the 'Guidelines for Preparing Mine Closure Plans' (June 2011) (refer to [www.dmp.wa.gov.au/documents/Mine\\_Closure\\_\(2\).pdf](http://www.dmp.wa.gov.au/documents/Mine_Closure_(2).pdf)) and approved by the Government of Western Australia's Department of Mines and Petroleum. Similarly, the Tropicana Gold Mine has submitted a conceptual mine closure and rehabilitation strategy.

Mine closure planning is an iterative process and in accordance with the Department updated set of guidelines (May 2015), IGO commenced a review of its MCPs in FY16, which will extend into FY17. IGO intends to grow its business, and given the likelihood that it may expand into new jurisdictions, IGO will also work to ensure closure plans conform to the ICMM Planning for Integrated Mine Closure: Toolkit (refer to [www.icmm.com/document/310](http://www.icmm.com/document/310)) where appropriate. The potential impacts of closure are an ongoing consideration in IGO's engagement with governments and local communities. Potential impacts of closure are also considered in regard to our support of community development initiatives and local business. Consequently the process for developing MCPs includes a structured approach, ensuring a range of stakeholder engagement throughout their development and revision. This is depicted in Figure 23 below.

Provisions are made for the estimated cost of rehabilitation, decommissioning and restoration relating to areas disturbed during the mine's operation.

FIGURE 23  
IGO PROCESS FOR DEVELOPING MINE CLOSURE PLANS



## JAGUAR OPERATION

The Jaguar Operation MCP is to be reviewed in FY17, as required by Department of Mines and Petroleum tenement conditions and IGO standards. The review will include input from a multidisciplinary team of consultants to undertake geochemistry analysis, landform and cover modelling, and to determine an accurate cost estimate. IGO has identified additional closure liabilities associated with the historic Teutonic Bore pit, and the waste rock dump and tailings dam, located to the north of the Jaguar Operation. Remediation of this legacy site begun in FY16 and continues into FY17.

## LONG OPERATION

The Long Operation MCP was submitted to the Department of Mines and Petroleum in early FY16 as part of annual reporting requirements and, following review by the Department, will be further amended in FY17. Separate to this, IGO undertook a review of the Long Operation MCP to verify the plan for practicality and revise the cost estimate for closure. The review included updating aerial photography of operations, a comprehensive soil and geochemical analysis, conceptual cover modelling and closure cost breakdown. The closure plan work is ongoing into FY17 and the current Long Operation MCP will be updated to include the works completed.

IGO is currently working with BHPB regarding the closure plan for the Kambalda concentrator tailings dam operated by BHPB and located on IGO's mining lease.

## NOVA PROJECT

An MCP, aligned to the current Department of Mines and Petroleum/Environmental Protection Authority guidelines, was submitted with the mining proposal for the Nova Project in 2014. The operation has a predicted 12-year mine life, including two years of construction, with the next MCP revision to occur in FY17.

## ESTIMATED COST OF CLOSURE

Tropicana Gold Mine	\$65,790,749
Long Operation	\$5,895,910
Jaguar Operation	\$11,376,768
Nova Project	\$29,152,780
<b>Total</b>	<b>\$112,216,207</b>

At present, IGO's MCPs are not subject to independent audits nor are they readily available publicly. Once complete, IGO will arrange for them to be audited and made publicly available.

## MINE REHABILITATION FUND

IGO, like many other mining companies, pays a Mining Rehabilitation Fund Levy to the Government of Western Australia (refer to [www.dmp.wa.gov.au/19344.aspx](http://www.dmp.wa.gov.au/19344.aspx)). In FY16, IGO's levy payments totalled \$212,307.

## CASE STUDY: TEUTONIC BORE (JAGUAR)

Teutonic Bore, operated by Seltrust-MIM Joint Venture, was an open pit operation, which later progressed to underground operations during the early 1980s. Operations included a tailings storage facility, run-of-mine pad, process plant, waste rock dump and residential camp. A rehabilitation campaign was undertaken by Mt Isa Mines on part of the site, and signed off by the now Department of Mines and Petroleum in 1997. Areas signed off include the waste rock dump, a portion of the run-of-mine and process plant area.

The remaining site is IGO's responsibility to rehabilitate, including the pit, remaining waste rock dump, laydown area and tailings storage facility. A review of the site in 2015 identified exposed waste rock, tailings and low grade ore with the potential to generate acid mine drainage. During the reporting period IGO began removal of historical scrap metal stored at the old laydown area, which is ongoing in FY17.

IGO is committed to progressively rehabilitating the site during its operational life and has engaged an external consulting firm to better understand the potential environmental risks. In FY17 a number of studies are planned, including geochemistry, landform and cover design and a revision of the closure liability. Following the completion of studies, a progressive rehabilitation plan will be developed and approval from the Department of Mines and Petroleum sought.





## APPENDICES

### MATERIALS STEWARDSHIP

In line with our environmental policy, IGO supports the concept of materials stewardship. Materials stewardship is an integrated strategy aimed at ensuring that all material, processes, and products associated with our business are produced, consumed and disposed of in an economically, socially and environmentally responsible manner. Materials stewardship is generally seen to have three components: resource stewardship, process stewardship and product stewardship.

**Resource stewardship** is the process of maximising the benefits derived from the resource over its entire lifetime while minimising or mitigating the resultant negative impacts. The obvious focus of resource stewardship in the mining context is ore recovery and the avoidance of activities that will likely result in the 'sterilisation' of ore (i.e. doing something that is likely to permanently render an ore source as sub-economic to mine). However, resource stewardship extends over a wide range of materials including the natural resources on the lands surrounding and controlled by mining companies, the topsoil and biomass cleared from a site prior to the

commencement of mining, the management of the waste rock extracted during mining, and the management of other wastes including tailings. Resource stewardship is central to IGO's day-to-day environmental management.

**Process stewardship** is the set of activities required to ensure that we maintain effective control over our mining-related activities to maximise socio-economic benefits while minimising or mitigating the negative impacts. Process stewardship specifically includes the way in which we manage process inputs such as water, power and other process consumables.

**Product stewardship** is the process by which the producer controls or seeks to influence how their product is used and ultimately disposed of. For mining companies like IGO, resource stewardship and process stewardship are directly within our control. In the case of product stewardship (as is true for most producers of gold, nickel and copper, zinc and silver), while we have some control in determining who the initial buyers of our products are, we effectively have no control over the materials once they enter the myriad of global manufacturing supply chains.



## IGO IMPACTS IN THE WIDER CONTEXT

IGO has total or part ownership of three operating mines, all of which are located in Western Australia. While IGO's socio-economic contribution and environmental impacts are not trivial, it is noteworthy that Western Australia has approximately 1,055 mining operating sites (open pit, underground mines and quarries) and 169 mineral processing plants (refer to [www.dmp.wa.gov.au](http://www.dmp.wa.gov.au)). Western Australia is one of the most productive and diversified mineral regions in the world with more than 50 minerals being produced in commercial quantities. Consequently, the socio-economic contribution and environmental impacts of the industry as a whole are material both in a state and a national context.

### GLOBAL REPORTING INITIATIVE CONTENT INDEX

The following table has been developed to aid the cross-referencing of IGO's material issues (as determined in this report) to Global Reporting Initiative (GRI) reporting guidelines.



# GRI CONTENT INDEX

The table below cross-references the general standard disclosure requirements of the GRI reporting guideline with the contents of this report

## GENERAL STANDARD DISCLOSURES

General Standard Disclosures	Page Number (or Link)
<b>Strategy and Analysis</b>	
G4-1	page 2-3
<b>Organisational Profile</b>	
G4-3	contents page and p5
G4-4	page 5, 21
G4-5	contents page
G4-6	page 21
G4-7	page 22
G4-8	page 50-55
G4-9	page 21, 50-51, 58-59
G4-10	page 58-59
G4-13	page 21-23, 51-54
<b>Identified Material Aspects and Boundaries</b>	
G4-18	page 15-19
G4-19	page 16-17
<b>Stakeholder Engagement</b>	
G4-24	page 18-19
G4-25	page 15-19
G4-26	page 18-19
<b>Report Profile</b>	
G4-28	page 15
G4-29	page 15
G4-30	page 15
G4-31	contents page
G4-32	page 88
<b>Governance</b>	
G4-34	page 9
<b>Ethics and Integrity</b>	
G4-56	page 6-8

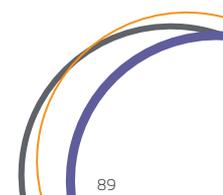
## SPECIFIC STANDARD DISCLOSURES

DMA and Indicators	Page Number (or Link)
<b>Category: Economic</b>	
<b>Material Aspect: Economic Performance</b>	
G4-DMA	page 15-16, 50-51
G4-EC1	page 50-51
<b>Material Aspect: Indirect Economic Impacts</b>	
G4-DMA	page 15-16, 50-55
<b>Material Aspect: Procurement Practices</b>	
G4-EC9	page 50-55
<b>Category: Environmental</b>	
<b>Material Aspect: Materials</b>	
G4-DMA	page 15-16, 73-85
G4-EN1	page 25
<b>Material Aspect: Energy</b>	
G4-DMA	page 15-16, 82-83
G4-EN3	page 82-83
G4-EN4	page 82-83
<b>Material Aspect: Water</b>	
G4-DMA	page 15-16, 80-81
G4-EN8	page 80-81
<b>Material Aspect: Biodiversity</b>	
G4-DMA	page 15-16, 75-76
G4-EN12	page 73-79
<b>Material Aspect: Emissions</b>	
G4-DMA	page 15-16, 82-84
G4-EN15	page 82-84
G4-EN16	page 82-84
<b>Material Aspect: Effluents and Waste</b>	
G4-DMA	page 15-16, 80
G4-EN23	page 80
<b>Material Aspect: Transport</b>	
G4-DMA	page 15-16, 78
G4-EN30	page 78
<b>Category: Social</b>	
<b>Sub-Category: Labor Practices And Decent Work</b>	
<b>Material Aspect: Employment</b>	
G4-DMA	page 15-16, 58-59
G4-LA1	page 58-59
<b>Material Aspect: Occupational Health and Safety</b>	
G4-DMA	page 15-16, 60-63
G4-LA6	page 60-63
<b>Sub-Category: Society</b>	
<b>Material Aspect: Local Communities</b>	
G4-DMA	page 15-16, 64-68
G4-SO1	page 66-67
G4-SO2	page 70-71

## IGO PARAMETERS

Parameter	Value	Unit
<b>Independence Group (Combined)</b>		
Size of IGO Workforce	743	count
<b>Inputs</b>		
Labour	1,540,290	h
Ore Mined	725,089	t
Electricity	28,690,897	KWh
Gas	476,153	GJ
Diesel	9,228,808	L
Ground Support	1,382	t
Explosives	1,338	t
Cement	10,531	t
Grinding Media	551	t
Water	1,918,122	kL
Reagents – Copper Sulphate	1,558	t
Lubricants and Oils	314,124	L
<b>Emissions</b>		
IGO Carbon Dioxide (Scope 1 and Scope 2)	65,220	CO <sub>2</sub> -e t
IGO Scope 1 Emissions	49,621	CO <sub>2</sub> -e t
IGO Scope 2 Emissions	15,599	CO <sub>2</sub> -e t
Carbon Monoxide	140,132	kg
Oxides of Nitrogen	356,208	kg
Sulphur dioxide	262	kg
Volatile Organic Compounds	22,572	kg
Particulate Matter (<10um)	1,029,763	kg
Particulate Matter (<2um)	20,796	kg
<b>Products</b>		
Ni in Ore Delivered	8,493	t
Cu in Ore Delivered	610	t
Cu in Concentrate	7,412	t
Zn in Concentrate	39,335	t
Ag in Concentrate	1,603,565	oz
Au in Concentrate	4,543	oz
Au in Bullion	134,435	oz
<b>Rehabilitation</b>		
Newly rehabilitation	61	ha
<b>Waste</b>		
Tailings (dry)	393,840	t
Waste Rock	726,018	t
Materials to Landfill	1,668	t

Parameter	Value	Unit
<b>Tropicana Gold Mine</b>		
Life of Mine	8	years
Tropicana Tenement Area	9,000	km <sup>2</sup>
Total Cleared Area (FY16)	305	ha
Ore Mined	6.5	Mt
Waste Mined	24.6	Mt
Au	448,116	oz
IGOs Gold Share	134,435	oz
Tropicana Tailings	6.6	Mt
<b>Consumables</b>		
Water Abstraction From Operational and Process Water Bores	7,517,495	kL
<b>Long Operation</b>		
Life of Mine	1.5	years
Total Cleared Area	102	ha
% FIFO Workforce	19	%
Ore Mined	215,337	t
<b>Consumables</b>		
Dewatering Volume to Surface	218,437	kL
Water Discharge to Lake Lefroy	293,770	kL
<b>Jaguar Operation</b>		
Life of Mine	3.5	years
Total Cleared Area	288	ha
% FIFO Workforce	95	%
Waste Mined	187,703	t
Ore Mined	497,451	t
<b>Consumables</b>		
Underground Dewatering	1,111,017	kL
Water Discharged into Teutonic Bore Pit	13,188	kL



## IGO PARAMETERS (CONT'D)

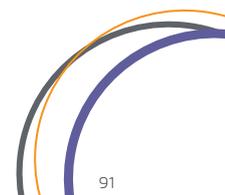
Parameter	Value	Unit
<b>Economic Impact</b>		
Value of IGO's Products	\$413.2 million	AUD
IGO Exploration Expenditure	\$32.1 million	AUD
IGO Gold Sales (FY16)	\$223.4 million	AUD
IGO Nickel Sales (FY16)	\$61.6 million	AUD
<b>Financial Performance</b>		
Underlying Earnings (EBITDA*)	\$135.7 million	AUD
Net Profit (Loss) After Tax	\$(58.8) million	AUD
Net Cash and Cash Equivalents	\$46.3 million	AUD
Total Fully-Franked Dividends Paid in FY16	2.5 c/share	AUD
Final Dividend Paid (FY16)	\$12.8 million	AUD
<b>Socio-Economic Contributions</b>		
Salaries (excluding Tropicana Gold Mine)	\$51.9 million	AUD
Tax and State Royalties (including IGO's part of Tropicana Gold Mine)	\$14 million	AUD
Corporate Giving	\$0.22 million	AUD
Ngadju's Community Development Project's Spending	262,000	AUD
IGO Spending on Contractors and Suppliers	\$354 million	AUD
<b>Social Impact</b>		
Material Issues	48	count
Number of IGO Staff	349	count
Number of Contractors	394	count
Percentage of Female Employees	23.2	%
Percentage of Male Employees	76.8	%
IGO Spending on Local Indigenous Contractor (Bundarra Contracting)	\$2.3 million	AUD

\* Unaudited Underlying EBITDA excludes acquisition costs (Q4 FY16: -A\$1,848,000, FY16: A\$63,555,000), impairments (Q4 FY16: A\$nil, FY16: A\$35,518,000), and gain on investment sales (Q4 FY16: A\$1,433,000, FY16: A\$2,955,000).

Parameter	Value	Unit
<b>Safety</b>		
IGO Employee Hours Worked	1,540,290	h
No. of Injuries at IGO (including Tropicana)	275	count
No. of Injuries Requiring Medical Treatment	30	count
LTI	8	count
MTIs	12	count
IGO Workers Compensation Claims	13	count
<b>Transport</b>		
Jaguar Operation – No. of trucks received per year	78	count
Long Operation – No. of trucks received per year	260	count
Tropicana Gold Mine – No. of trucks/vehicles per month (one way)	60	count
<b>Statutory Compliance</b>		
DMP Improvement Notices Received	6	count
<b>Land and Biodiversity Management</b>		
Long Land Disturbance (Total)	102	ha
Long Land Rehabilitation	80	ha
Jaguar Land Disturbance (Total)	288	ha
Jaguar Land Rehabilitation	92	ha
Jaguar Exploration Rehabilitation (FY16)	1.6	ha
Tropicana Gold Mine Land Clearing (FY16)	305	ha
Nova Land Disturbance	512	ha
Nova Land Rehabilitation	43	ha
<b>Energy Consumption</b>		
Jaguar Operation	758,803	GJ
Long Operation	132,306	GJ
Nova Project	220,335	GJ

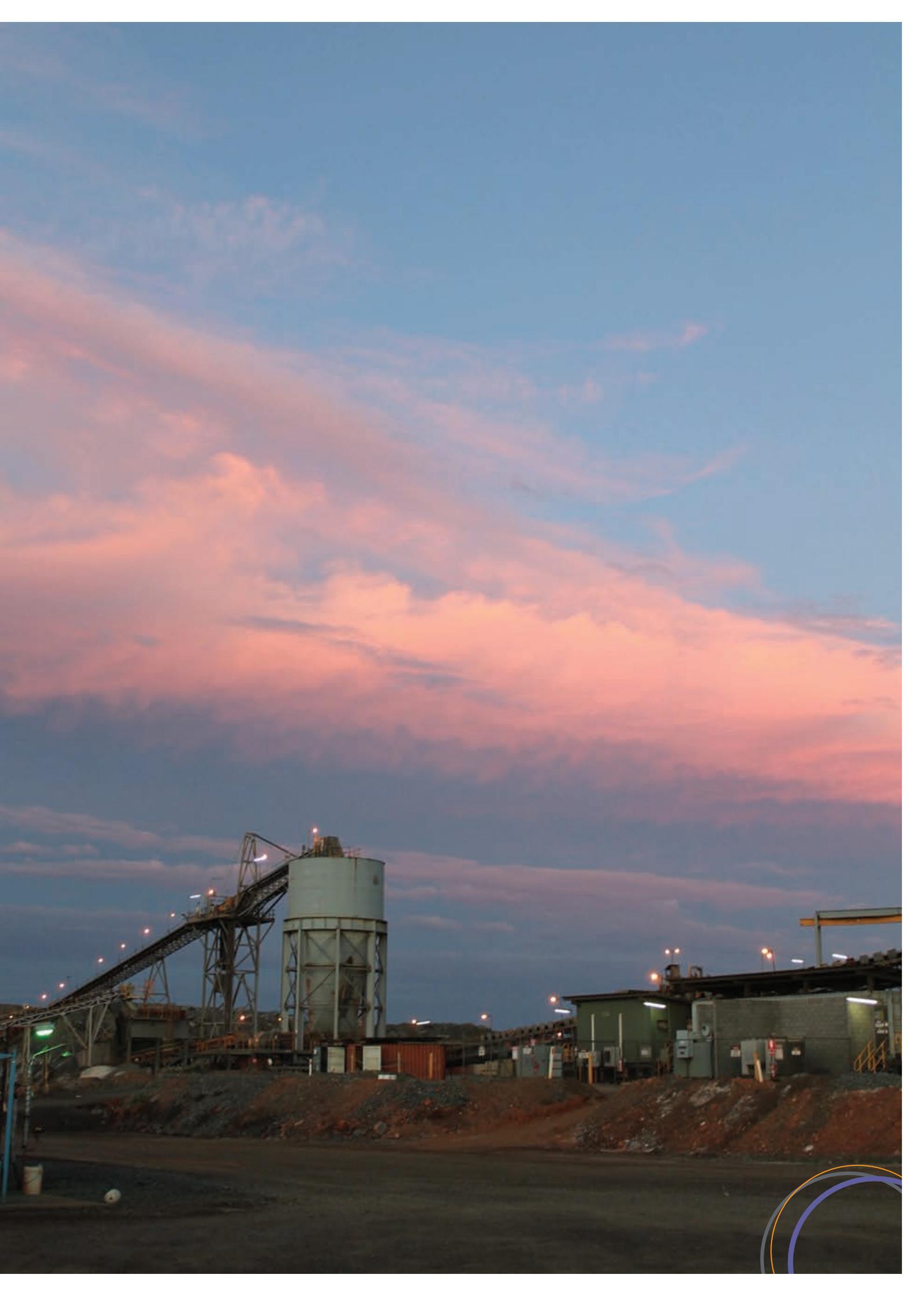
## DATA DOTS: EXPLANATIONS AND REFERENCES

Number	Reference	Page No.
743 people employed at IGO	Total employees and contractors employed at all IGO operations, projects, exploration and corporate sites as of 30 June 2016, reference IGO Sustainability Report 2016	1
\$232.6M invested in growth	Figure includes payments for exploration expenditure (\$20,032,000), payments for capitalised exploration and evaluation expenditure (\$10,586,000) and payment for acquisition of subsidiary – Sirius Resources (Nova Project) (\$202,052,000), reference IGO Financial Report 2016	3
7.2Mt ore processed from our operations	Total ore milled in tonnes at Tropicana Gold Mine (6,528,000t), Jaguar Operation (505,578t) and Long Operation (215,337t), reference IGO Financial Report 2016	5
\$12.8M dividends paid to shareholders	Full ordinary dividend for the year ending 30 June 2016 of 2.5 cents per fully paid share, reference IGO Financial Report 2016	9
7.5Mtpa expanded Tropicana plant capacity	Nameplate capacity of the Tropicana processing plant, 5.8Mtpa, was achieved in March 2014, and the operation is currently targeting and on track to expand the capacity to 7.5Mtpa in FY17, reference IGO Financial Report 2016	15
139koz gold produced from our operations	Total gold metal payable at Tropicana (IGO's share – 134,435oz) and Jaguar (4,543oz), reference IGO Financial Report	16
2.4Moz gold reserves	Total contained metal Au reserves, including proven and probable sources as of 30 June 2016 measured (t), reference IGO Annual Report 2016	21
3.9 FY16 lost-time injury frequency	The 12 month moving average frequency rate for lost-time injuries (LTIs) for the IGO group. LTIs are injuries that result in individuals not being able to work for a time represented as a frequency rate per 1,000,000 man hours, reference IGO Sustainability Report 2016	29
134koz gold produced	Total gold metal payable at Tropicana (IGO's share – 134,435oz), reference IGO Financial Report 2016	31
8,493t nickel metal produced	Total nickel metal produced at Long Operation and delivered to BHP Billiton Kambalda concentrator, reference IGO Financial Report 2016	33
\$133M Jaguar revenue	Total revenue for Jaguar Operation (\$132,987,000), reference IGO Financial Report 2016	35
9Mt ore reserves (copper and zinc)	Current ore reserve for Stockman Project (9Mt), including copper, zinc, silver and gold metal, reference Annual Report 2016	41
1.3Mha of mineral tenements	Total area in hectares of all tenements (prospecting, exploration, mining, miscellaneous and other), excluding freehold title held within Australia (1,303,987ha), reference IGO Sustainability Report 2016	46
\$413M revenue from operations	Revenue from sale of goods (\$413,188,000), reference IGO Financial Report 2016	49
\$14M tax and state royalties paid	Total money paid through tax and state royalties, including Tropicana, reference IGO Sustainability Report 2016	51
\$354M contractor spend	Total spend on contractors and suppliers for FY16 (\$353,644,425), IGO Sustainability Report 2016	54
5% increase in female employees	Female employees increased from 62 in FY2015 to 72 in FY16, a 5% increase year on year, reference IGO Sustainability Report 2016	57
7% reduction in injuries at Tropicana	Total recordable injuries from Tropicana reduced from 162 in FY15 to 151 in FY16, a 7% reduction year on year, reference IGO Sustainability Report 2016	60



## DATA DOTS: EXPLANATIONS AND REFERENCES (CONT'D)

Number	Reference	Page No.
\$8M contract with Bundarra	Total value of contract signed with Bundarra for three year term at Jaguar Operation, reference IGO Sustainability Report 2016	64
\$221k donations to communities	Total money donated through corporate giving committee to charities and other institutions that align with the IGO policy, reference IGO Sustainability Report 2016	67
50kt CO <sub>2</sub> -e generated	Total carbon dioxide equivalent emissions from all sites, including Jaguar Operation, Long Operation, Nova Project, Exploration warehouse and corporate office in South Perth, reference IGO Sustainability Report 2016	73
61ha land rehabilitated	Total land rehabilitated at all operations and exploration sites, reference IGO Sustainability Report 2016	74
70kt of tailing used	The Long Operation used 69,859t of tailing purchased from St Ives Gold Mine to produce a paste backfill material that was used to refill mine underground voids, reference IGO Sustainability Report 2016	83
726kt waste rock moved	Total waste rock mined at Jaguar (187,840t), Long (49,830t) and Nova (488,485t), reference IGO Sustainability Report 2016	87





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