

INDEPENDENCE GROUP NL

Nova Site Visit Presentation

3 August 2019



ASX:IGO / ADR:IIDDY

Cautionary Statements & Disclaimer



- This presentation has been prepared by Independence Group NL (“IGO”) (ABN 46 092 786 304). It should not be considered as an offer or invitation to subscribe for or purchase any securities in IGO or as an inducement to make an offer or invitation with respect to those securities in any jurisdiction.
- This presentation contains general summary information about IGO. The information, opinions or conclusions expressed in the course of this presentation should be read in conjunction with IGO’s other periodic and continuous disclosure announcements lodged with the ASX, which are available on the IGO website. No representation or warranty, express or implied, is made in relation to the fairness, accuracy or completeness of the information, opinions and conclusions expressed in this presentation.
- This presentation includes forward looking information regarding future events, conditions, circumstances and the future financial performance of IGO. Often, but not always, forward looking statements can be identified by the use of forward looking words such as "may", "will", "expect", "intend", "plan", "estimate", "anticipate", "continue" and "guidance", or other similar words and may include statements regarding plans, strategies and objectives of management, anticipated production or construction commencement dates and expected costs or production outputs. Such forecasts, projections and information are not a guarantee of future performance and involve unknown risks and uncertainties, many of which are beyond IGO’s control, which may cause actual results and developments to differ materially from those expressed or implied. Further details of these risks are set out below. All references to future production and production guidance made in relation to IGO are subject to the completion of all necessary feasibility studies, permit applications and approvals, construction, financing arrangements and access to the necessary infrastructure. Where such a reference is made, it should be read subject to this paragraph and in conjunction with further information about the Mineral Resources and Ore Reserves, as well as any Competent Persons' Statements included in periodic and continuous disclosure announcements lodged with the ASX. Forward looking statements in this presentation only apply at the date of issue. Subject to any continuing obligations under applicable law or any relevant stock exchange listing rules, in providing this information IGO does not undertake any obligation to publicly update or revise any of the forward looking statements or to advise of any change in events, conditions or circumstances on which any such statement is based.
- There are a number of risks specific to IGO and of a general nature which may affect the future operating and financial performance of IGO and the value of an investment in IGO including and not limited to economic conditions, stock market fluctuations, commodity demand and price movements, access to infrastructure, timing of environmental approvals, regulatory risks, operational risks, reliance on key personnel, reserve and resource estimations, native title and title risks, foreign currency fluctuations and mining development, construction and commissioning risk. The production guidance in this presentation is subject to risks specific to IGO and of a general nature which may affect the future operating and financial performance of IGO.
- All currency amounts in Australian Dollars unless otherwise noted.
- Quarterly Financial Results are unaudited.
- Net Debt is outstanding debt less cash balances and Net Cash is cash balance less outstanding debt.
- Cash Costs are reported inclusive of Royalties and after by-product credits on per unit of payable metal basis, unless otherwise stated.
- IGO reports All-in Sustaining Costs (AISC) per ounce of gold for its 30% interest in the Tropicana Gold Mine using the World Gold Council guidelines for AISC. The World Gold Council guidelines publication was released via press release on 27 June 2013 and is available from the World Gold Council’s website.
- Underlying EBITDA is a non-IFRS measure and comprises net profit or loss after tax, adjusted to exclude tax expense, finance costs, interest income, asset impairments, gain/loss on sale of subsidiary, redundancy and restructuring costs, depreciation and amortisation, and once-off transaction costs.
- Free Cash Flow comprises Net Cash Flow from Operating Activities and Net Cash Flow from Investing Activities. Underlying adjustments exclude acquisition costs, proceeds from investment sales and payments for investments.

Competent Person's Statements



- Any references to IGO Mineral Resource and Ore Reserve estimates should be read in conjunction with IGO's Annual Update of Exploration Results, Mineral Resources and Ore Reserves dated 20 February 2019 (Annual Statement) and lodged with the ASX for which Competent Person's consents were obtained, which is also available on the IGO website.
- The information in this presentation that relates to the Nickel Sulphate Pre-Feasibility Study is extracted from the ASX announcement dated 2 April 2019 entitled "Downstream Nickel Sulphate Study Update".
- The information in this presentation that relates to the Boston Shaker Feasibility Study is extracted from the ASX announcement dated 28 March 2019 entitled "Tropicana JV Approves Boston Shaker Underground" and for which a Competent Person consent was obtained.
- The Company confirms that it is not aware of any new information or data that materially affects the information included in the original ASX announcements released 26 July 2018, 20 February 2019, 1 July 2019, 9 July 2019, 17 July 2019, 31 July 2019, and, (i) in the case of estimates or Mineral Resources or Ore Reserves, that all material assumptions and technical parameters underpinning the estimates in the original ASX announcement continue to apply and have not materially changed, (ii) the Competent Person's consents remain in place for subsequent releases by the Company of the same information in the same form and context, until the consent is withdrawn or replaced by a subsequent report and accompanying consent, and (iii) the form and context in which the Competent Person's findings are presented have not been materially modified from the original ASX announcement.



Welcome to Nova

Welcome to Ngadju Country



***We meet today
on the lands of
Ngadju people,
and we
acknowledge
their deep
spiritual
connection to
this country.***

Painting by Valma Wicker Schultz, a Ngadju Traditional Owner and Artist. IGO commissioned this artwork specifically to recognise our Traditional Land Owners at Nova and to demonstrate our appreciation of the strong working relationship we have with them.



- 1 **Nova Operational Review**
- 2 **IGO – Smart Solutions**
- 3 **Underground and Surface Site Tour**
- 4 **Growth – Exploration**
- 5 **Growth – Nickel Sulphate Project**
- 6 **Q & A**

Nova - Making A Difference

Recognised asset manager that continually strives to improve and excel



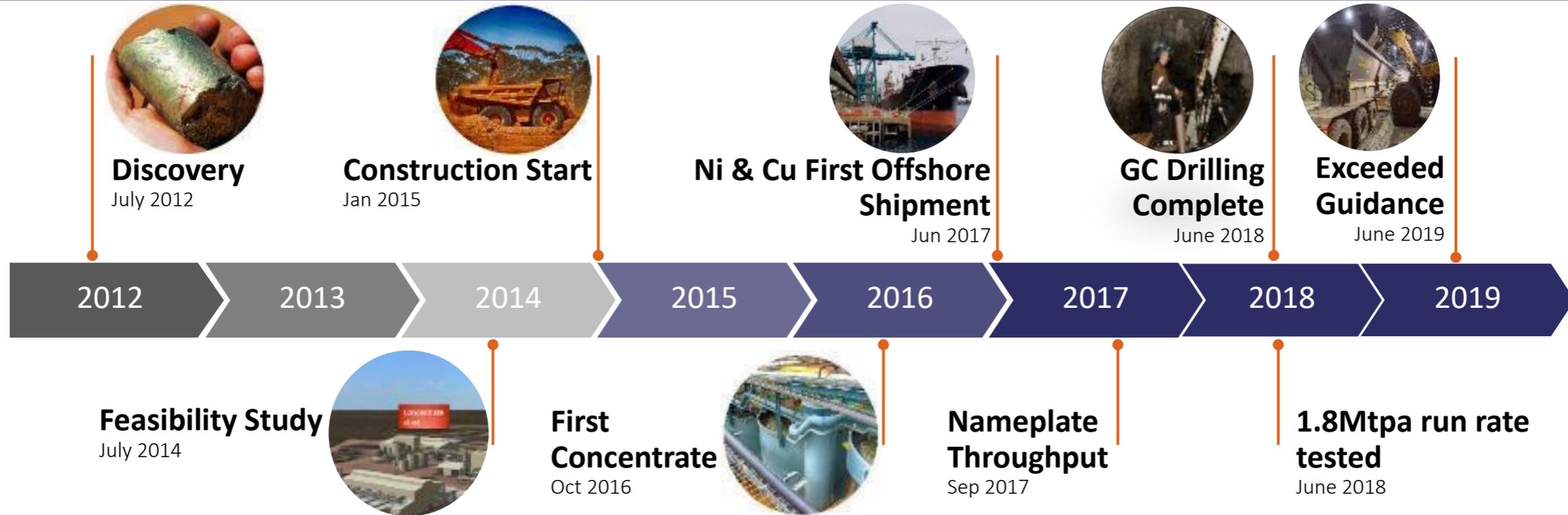
Delivered by people who are bold, passionate, fearless and fun – a smarter, kinder, more innovative team



Operational Overview



Transitioned from ramp up to steady state operation



Location	350km SE of Kalgoorlie 380km from Esperance
Metals	Nickel, Copper, Cobalt
Mineralisation Style	Chonolith magmatic sulphides analogous to Voisey's Bay & Kabanga
Mining	Shallow Underground via decline with Open Stoping with paste backfill and Contract mining (Barminco)

Processing	Crushing, grinding and flotation to produce nickel & copper concentrates Nameplate throughput 1.5Mtpa
Recovery	Design Ni 88% Cu 89% at 1.5Mtpa
Ore Reserves⁽¹⁾	11.5Mt at 1.90% Ni, 0.76% Cu, 0.06% Co
Mineral Resources⁽¹⁾	13.2Mt at 2.0% Ni, 0.8% Cu, 0.07% Co

1) Refer to ASX release dated 20 Feb 2019: Annual Mineral Resource and Ore Reserve Statement

FY19 Operational Highlights

Operational outperformance from Nova



Nova metal production exceeded FY19 production guidance

C1 costs marginally higher than guidance but within our operational control

Strong culture developed at Nova

Focused on continuous improvement with implementation of numerous programs

Metric	Units	FY19	FY19 Guidance
Nickel in concentrate	t	30,708	27,000 – 30,000
Copper in concentrate	t	13,693	11,000 – 12,500
Cobalt in concentrate	t	1,090	848 – 952
Cash cost (payable)	A\$/lb Ni	2.07	1.65 – 2.00
Development Capex	A\$M	23	25 – 28
Sustaining Capex	A\$M	11.3	21 – 24

Solid underlying free cash flow generation

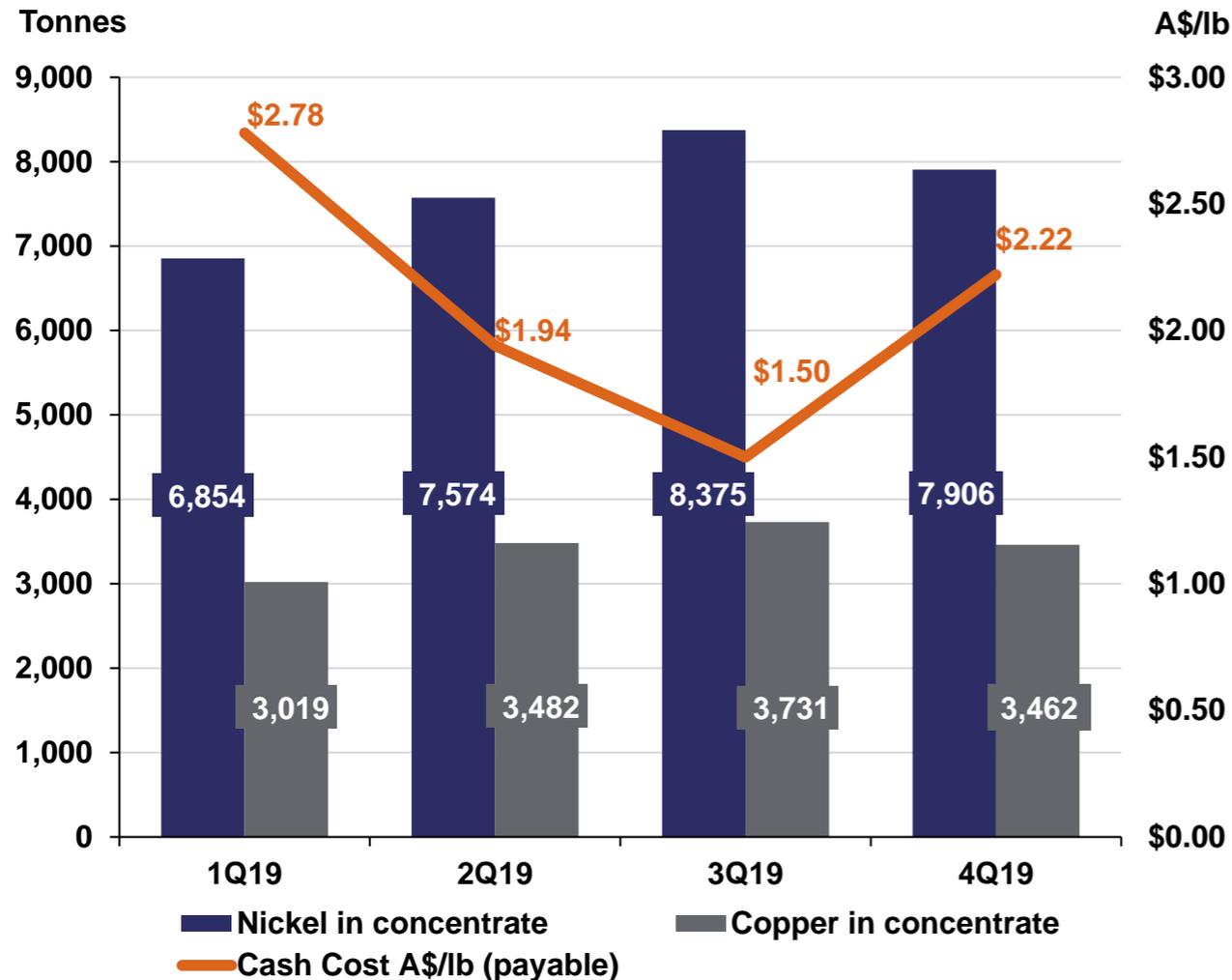
A\$251M

Reflection on FY19

Strong FY19 laying the foundation for operational excellence



FY19 Production and Costs



Financial Summary⁽¹⁾

	1Q19 (A\$M)	2Q19 (A\$M)	3Q19 (A\$M)	4Q19 (A\$M)	FY19 (A\$M)
Revenue and other income	107	109	166	122	504
Underlying EBITDA	50	44	93	70	256
Cash Flow from Operating Activities	80	28	95	86	289
Underlying Free Cash Flow	71	17	89	74	251

Nova has successfully transitioned from ramp up to steady state operations

1) Refer to ASX release dated 31 July 2019 – June 2019 Quarterly Activities Report



People & Safety

Our People, Our Culture

Culture is fundamental to our success



↑ 13%
Improvement in Employee Engagement

↑ 11%
Improvement in pride working for IGO with a score of 80%

↓ 12%
Decrease in turnover; currently ~19%

16%
Female employment

17
Aboriginal employees with 4 traineeships



Mapping our culture to understand how to influence and shape ourselves into the culture we want

Reduction
in the absolute number of people hurt and
the average seriousness of injuries

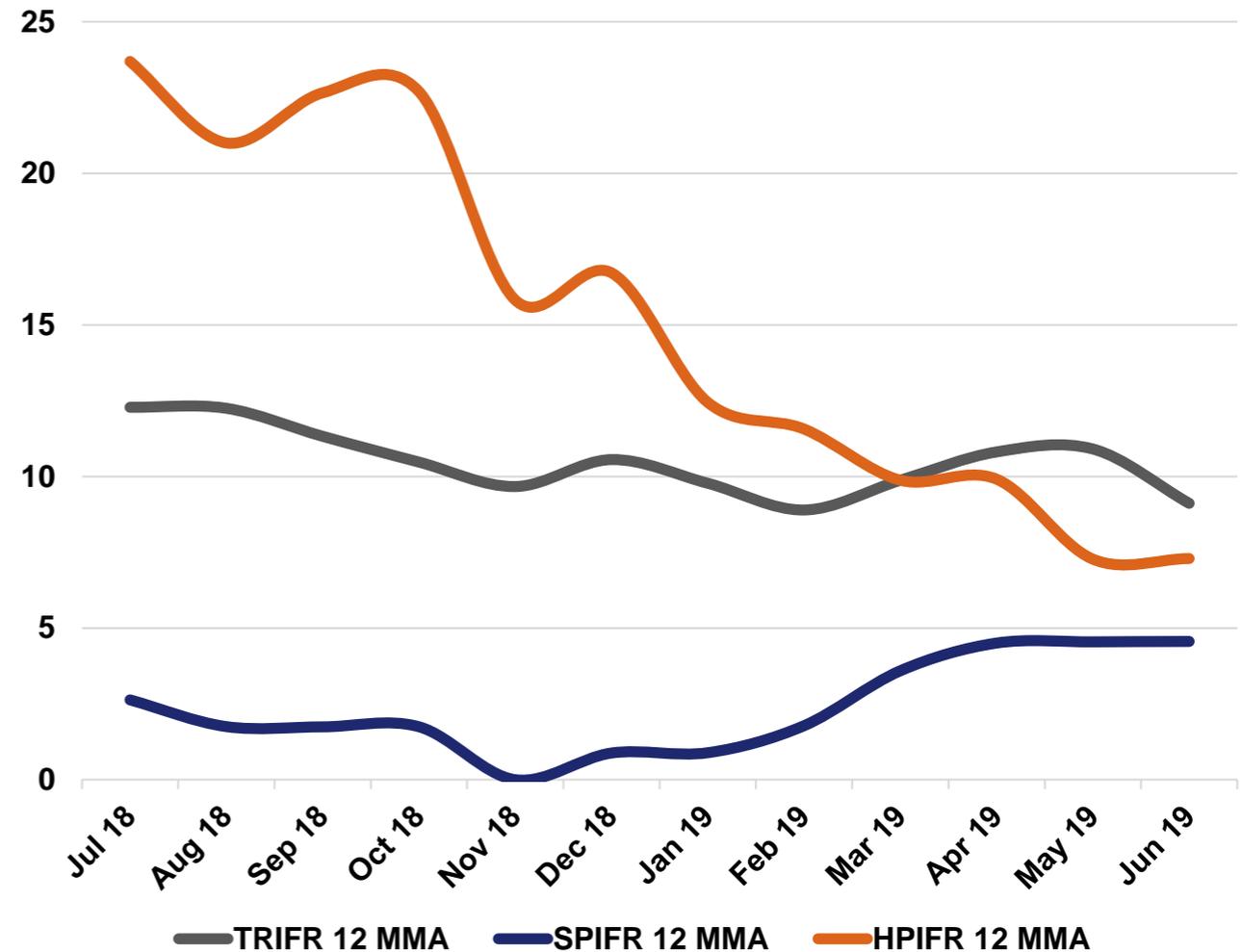
69%
reduction in the High Potential Incident
Frequency Rate (HPIFR)

26%
reduction in the Total Reportable Injury
Frequency Rate (TRIFR)

**Increase in the Serious Potential Incident
Frequency Rate (SPIFR) with 4 incidents**

- 1) SPIFR is defined as the number of Serious Potential Incidents per million man-hours worked. Serious Potential Incidents are incidents where a credible potential outcome is a fatality or permanent disabling injury.
- 2) HPIFR is defined as the number of High Potential Incidents per million man-hours worked. High Potential Incidents are incidents where the credible potential outcome is a serious injury (more than two weeks lost time).
- 3) TRIFR is defined as the number of Total Reportable Injuries per million man-hours worked. Total Reportable Injuries are the sum of all Lost Time Injuries and Restricted Work Injuries. At IGO, Restricted Work Injuries include both precautionary and involuntary restrictions.

Key Lag Safety Metrics



Community

Caring for our Community



✓ **\$3.3M**
royalty payments to the Ngadju people; the traditional owners

✓ **\$0.5M**
Corporate giving payments to 46 organisations

✓ **\$0.4M**
Support for local businesses

✓ **Active engagement**
With local schools



Environment

Caring for our environment



✓ **Rehab Trials**
Conducting trials of
land revegetation
post mining

✓ **Tailings
Storage**
Leading practices
and design

✓ **Landform**
Investigations into
erosion resistant
final slope designs
and materials

✓ **Zero**
Material
environmental
incidents

A photograph of two mining workers in a dark tunnel. They are wearing hard hats with headlamps and high-visibility orange and blue work clothes. The woman on the left has 'MATILDA' on her shirt, and the man on the right has 'NOVA PROJECT JONG' on his. A dark blue horizontal bar is overlaid across the middle of the image, containing the word 'Mining' in white text.

Mining

Mining - Highlights

Strong mining performance in FY19



25%
Increase in nickel tonnes mined in FY19 compared to FY18



56%
Increase in paste fill volumes and now at Life-of-Mine instantaneous paste fill rates



42%
Reduced TRIFR over FY19

Mining – Project to Date

Nova de-risked with grade control drilling and substantially all of development complete



19.4km

Capital development

13.3km

Operating development

5.3km

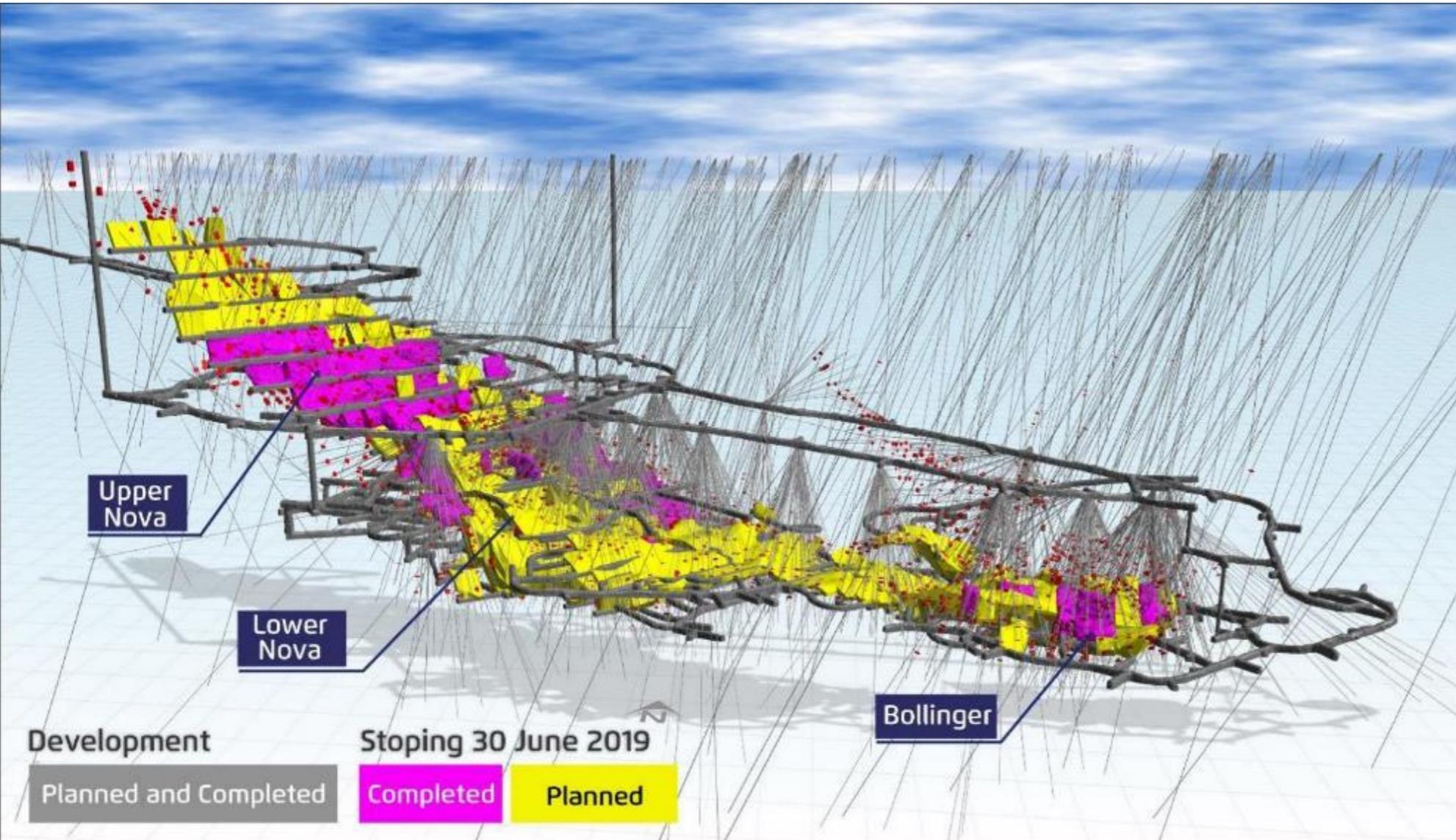
Surface drilling completed

324km

Underground grade control drilling completed

12.5m x 12.5m

Underground drill spacing

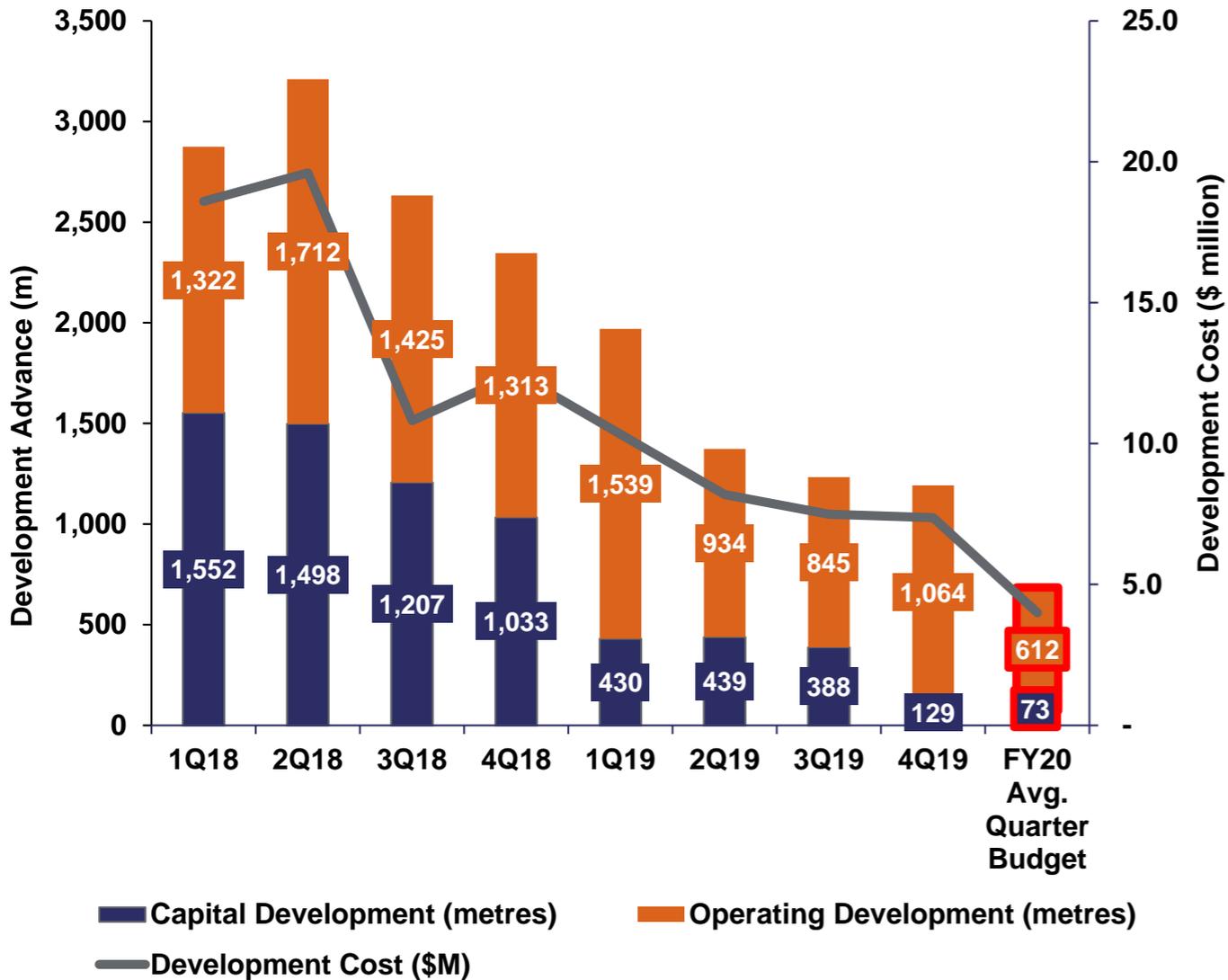


Mining – Underground Development

Underground development reducing toward completion



Mining Development



↓ **50%**
 Decrease in development crews YoY with currently one development crew onsite

↓ **79%**
 Decrease in capital development YoY

Development is now part of the production cycle rather than a critical activity

Mining Overview



Steady state mining in FY19 after ramp up in FY18

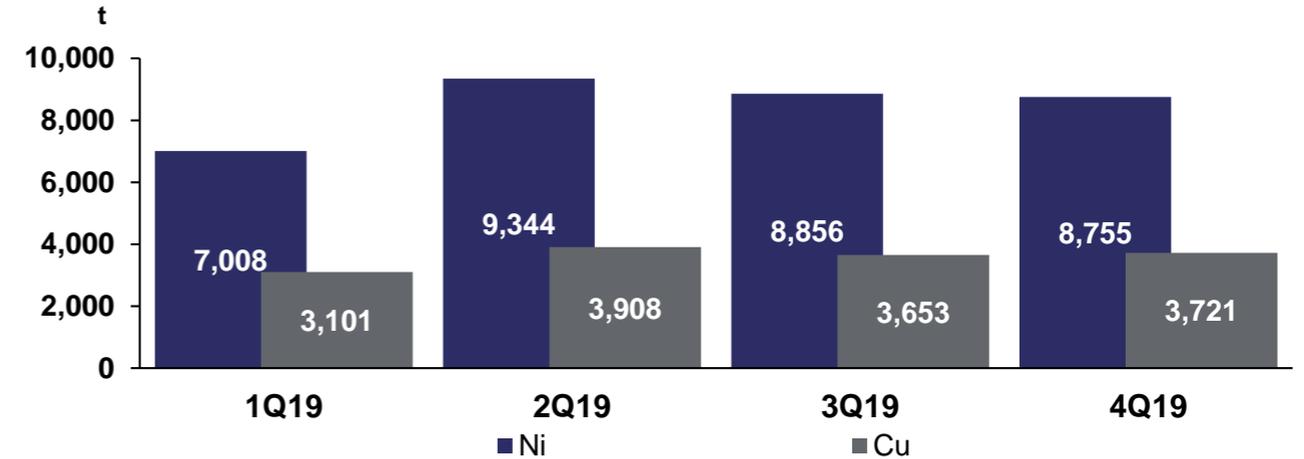
Stoping higher grade areas of Nova and Bollinger

- 36 stopes mined during FY19
- 38 stopes planned for FY20

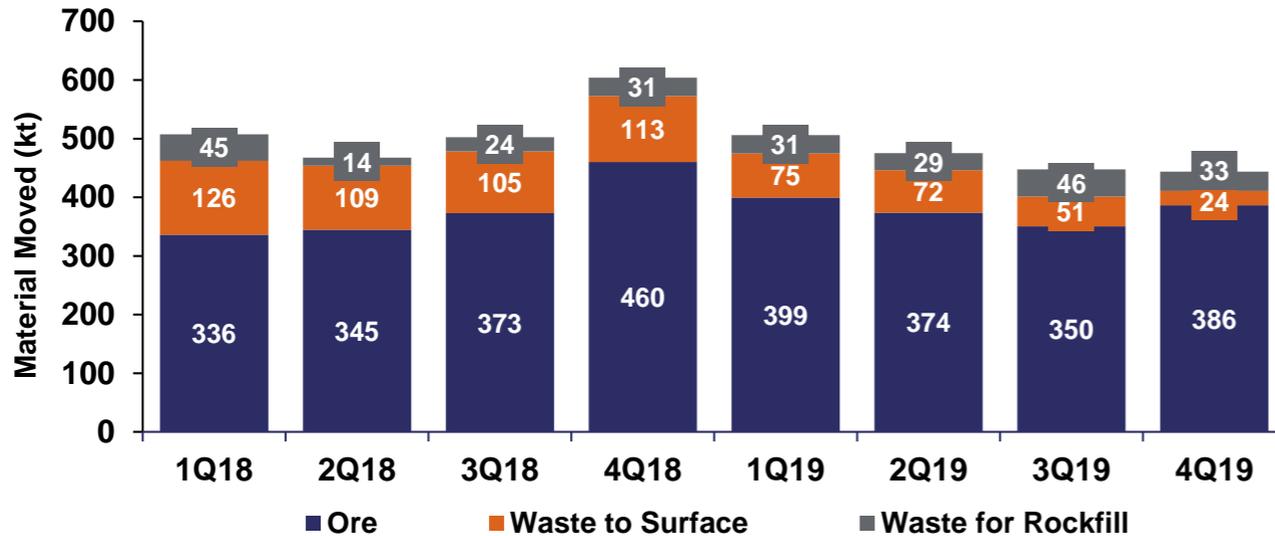
Mining Efficiencies

- Maximum number of mining fronts available
- Underground refuelling improving productivity
- Paste plant debottlenecking
- Only sustaining development remaining

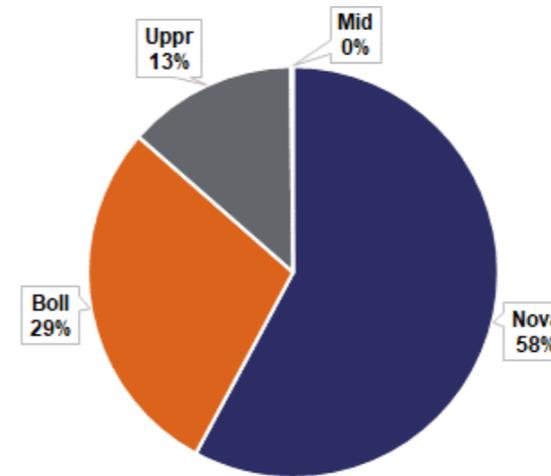
Mined Metal (t)



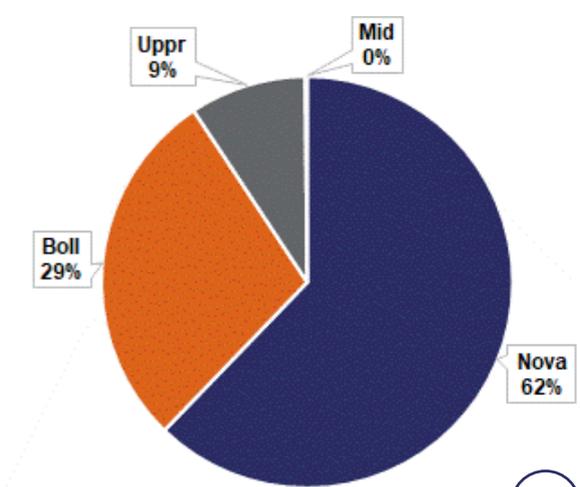
Material Movement – Trucked Tonnes



FY19 Ore Tonnes



FY19 Nickel Metal



Mining - Reconciliation

Life of mine de-risked, with high level of confidence in operational plan



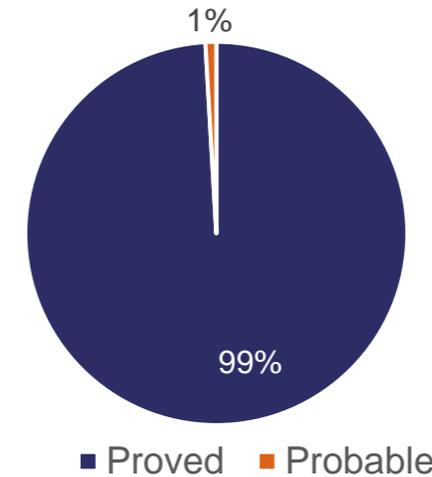
99%

Ore Reserve in Proved category

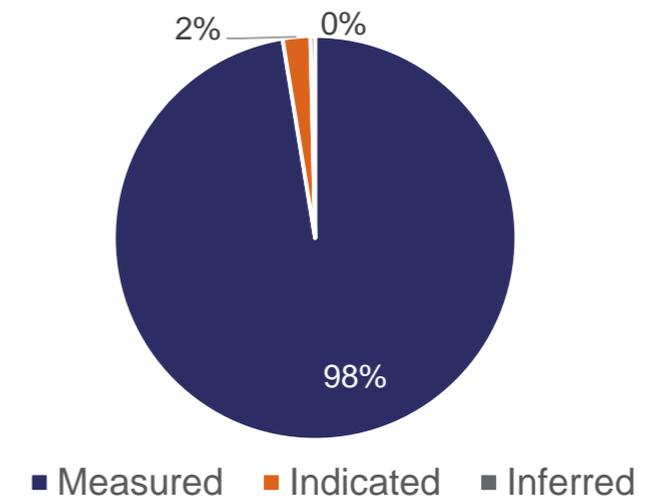
Grade control drilling completed over Life-of-Mine, our reserve model is our grade control model

Processing grades are within 3% of our Ore Reserve model

CY18 Ore Reserve Estimate – Nickel Metal



CY18 Mineral Resource Estimate – Nickel Metal



Mining – Operational Excellence

Focus on cost and productivity improvements



Key Operational Excellence Projects for FY20:

- 1 Equipment productivity and tracking
- 2 Automation and technology benefits
- 3 Paste binder optimisation
- 4 Stope design optimisation



An aerial, high-angle photograph of an industrial processing plant at night. The facility is illuminated by numerous warm-toned lights, creating a complex network of metal structures, walkways, and machinery. Several large, yellow, teardrop-shaped objects are visible on the upper levels of the plant. The ground below is dark and appears to be a mix of dirt and gravel. The overall scene conveys a sense of active industrial operations.

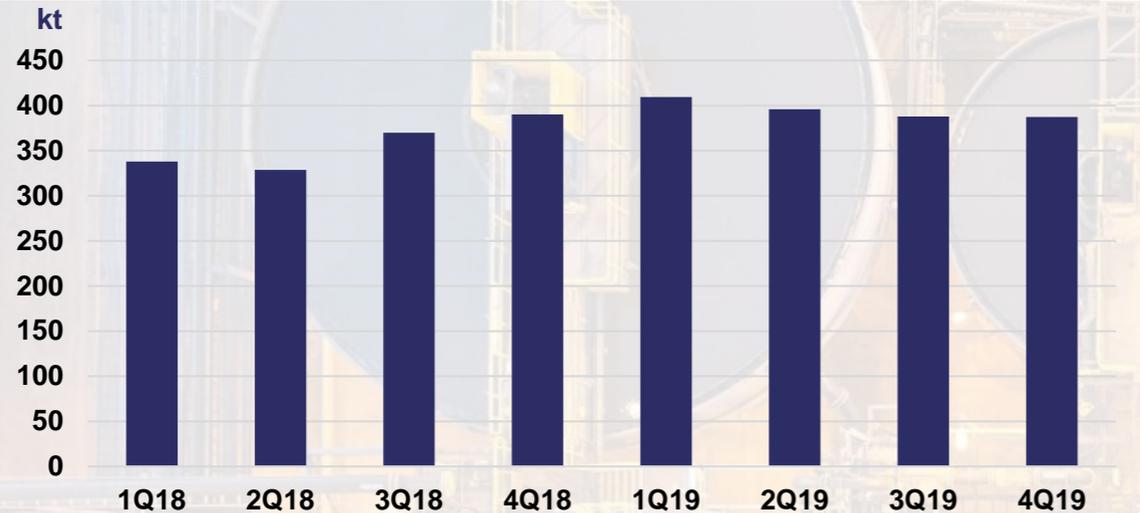
Processing

Processing - Highlights

Excellent FY19 Performance



Ore Milled (kt)



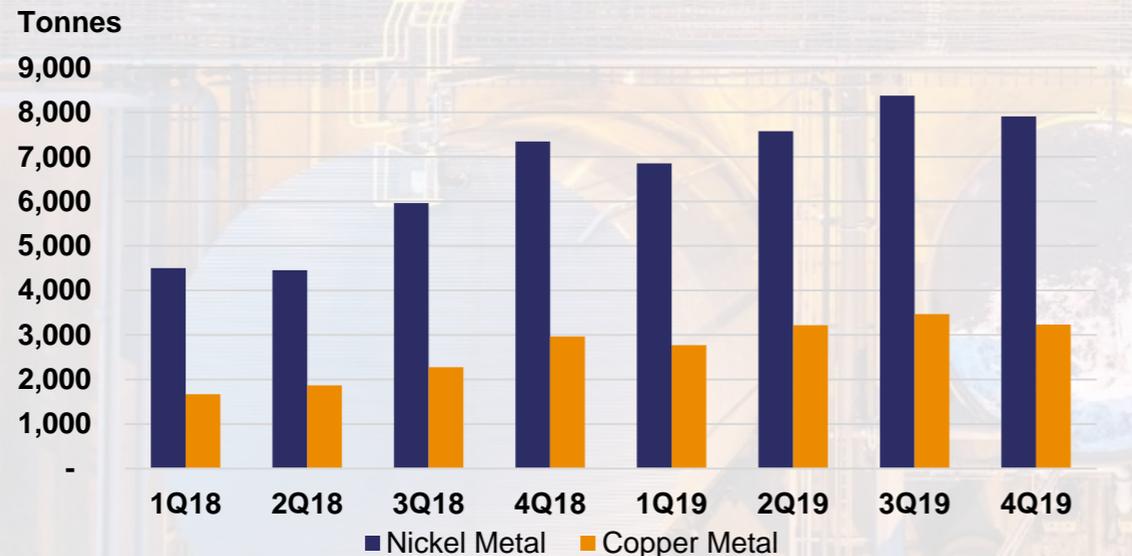
5%

over nameplate capacity of 1.5Mtpa with ability to process at 1.8Mtpa

1.58Mt

Ore milled in FY19

Metal Production (t)



2.4%

above top-end of guidance for nickel metal and 1.6% for copper metal production

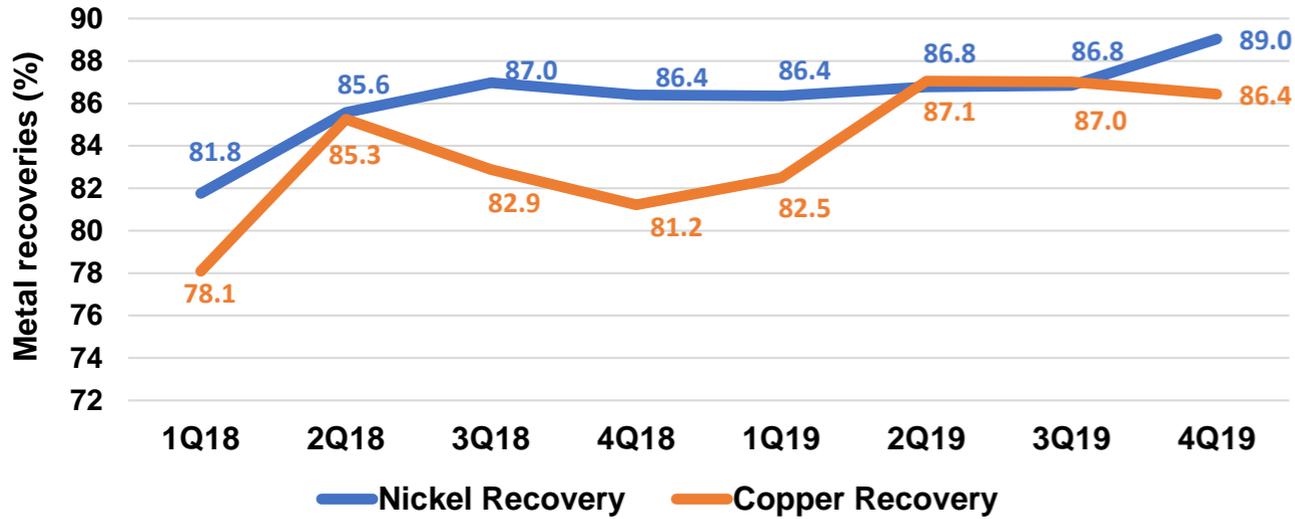
Top 10 downtime events accounted for >90% of unplanned downtime – corrective actions implemented

Processing - Recoveries

Improved & sustained recoveries over FY19



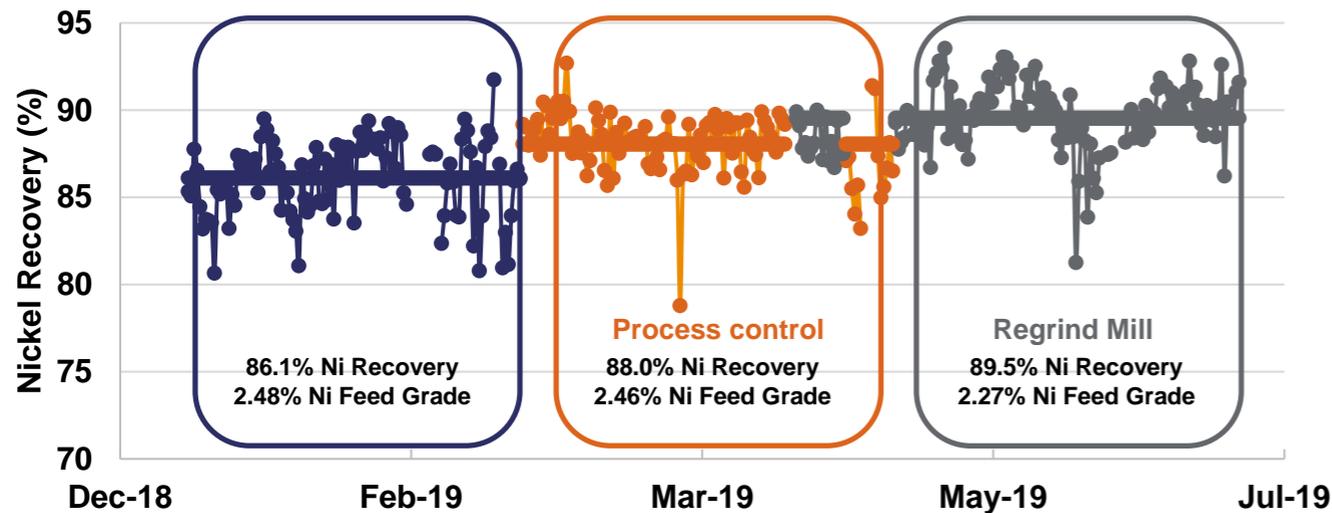
Recoveries trending higher



↑ 2.2%
Improvement in nickel recovery with step change delivered in 4Q19

↑ 4.5%
Improvement in copper recovery

Average nickel recoveries improving



Control philosophy changes resulted in improved recoveries, continuing into FY20

Processing – Operational Excellence

Focus on recovery and cost improvements in FY20



Key Operational Excellence Projects for FY20:

1 Strategy to continue to improve recoveries

- Operational data with real-time analysis and machine learning
- Optimisation of regrind circuits
- Optimisation of chemistry conditions

2 Strategy to reduce costs

- Improved reliabilities
- Shutdown optimisation
- Enhanced decision making through data analytics
- Improved management of water



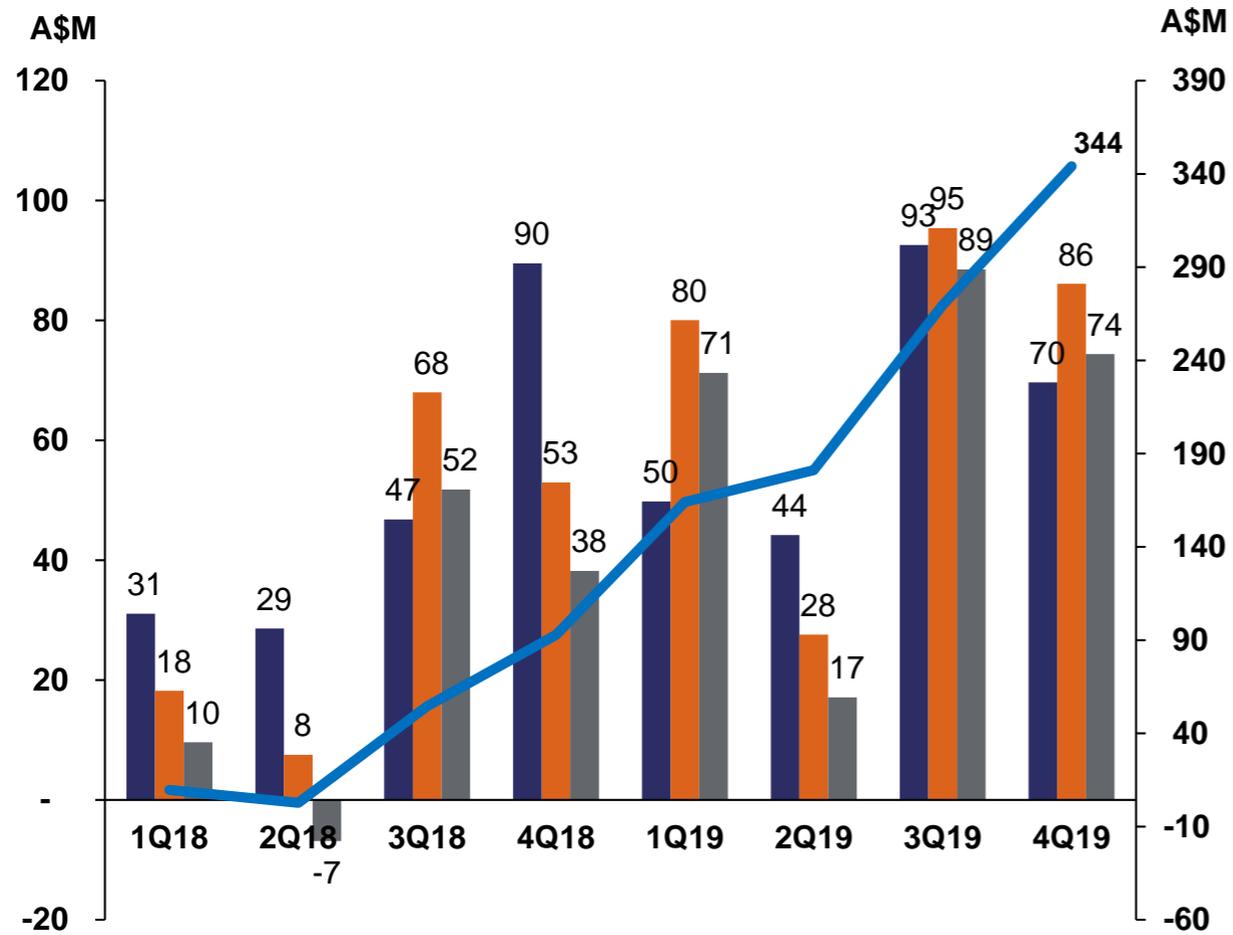
Financials

Nova Financials

Operation focused on free cash flow generation



Quarterly Financial Performance



Underlying EBITDA

Cash Flow from Operating Activities

Free Cash Flow

Cumulative FCF



A\$344M

Cumulative free cash flow (FCF) since commercial operation

73%

Cumulative free cashflow generated in FY19

Continued focus on:

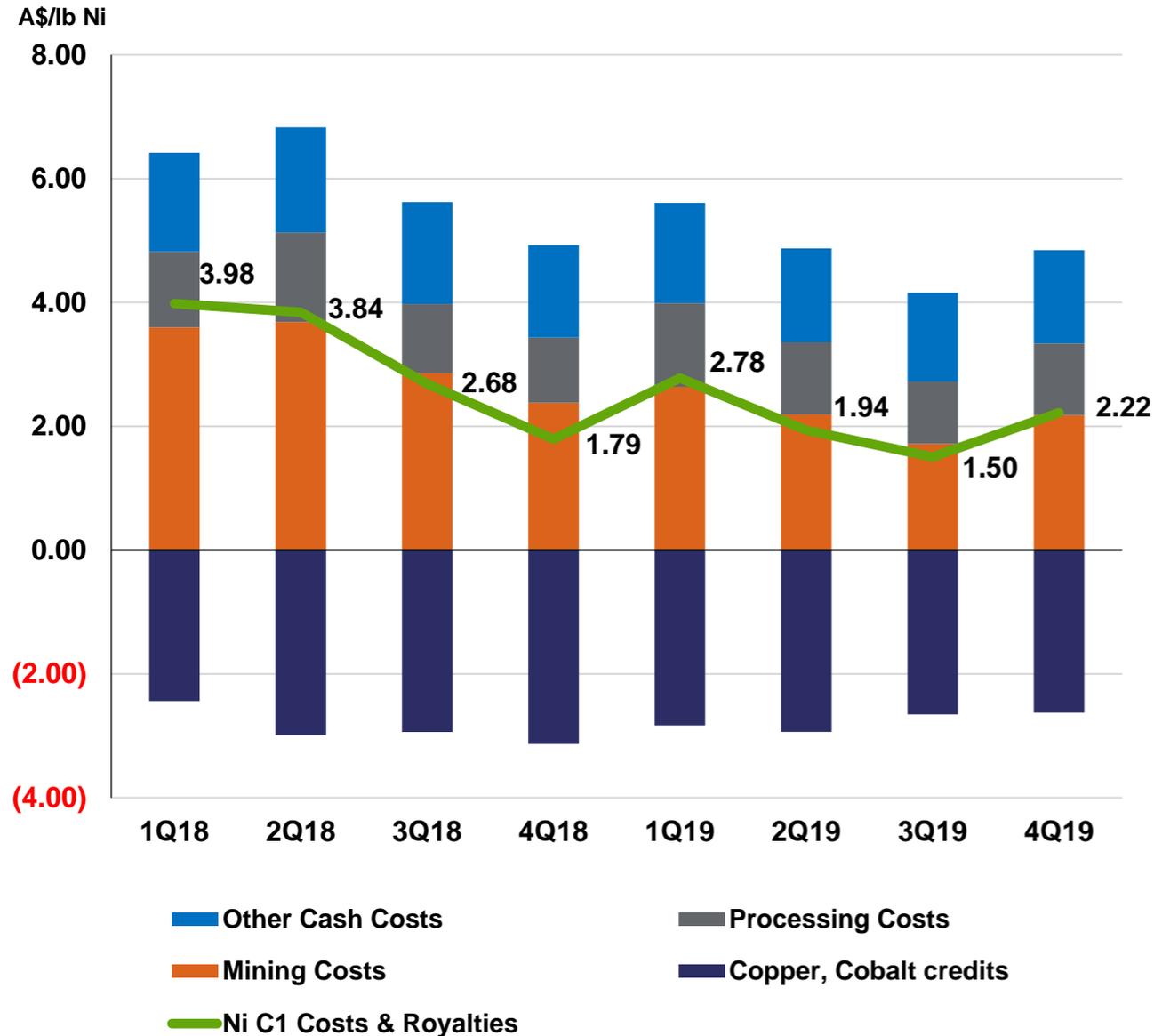
- Optimisation of costs
- Productivity and efficiency improvements
- Recovery improvement

C1 Cash Costs

Declining cost profile since first production



Quarterly Cash Cost Performance (A\$/lb Ni)



28%
Reduction in costs YoY from higher nickel volumes covering overheads costs

27%
YoY reduction in operating development mining costs

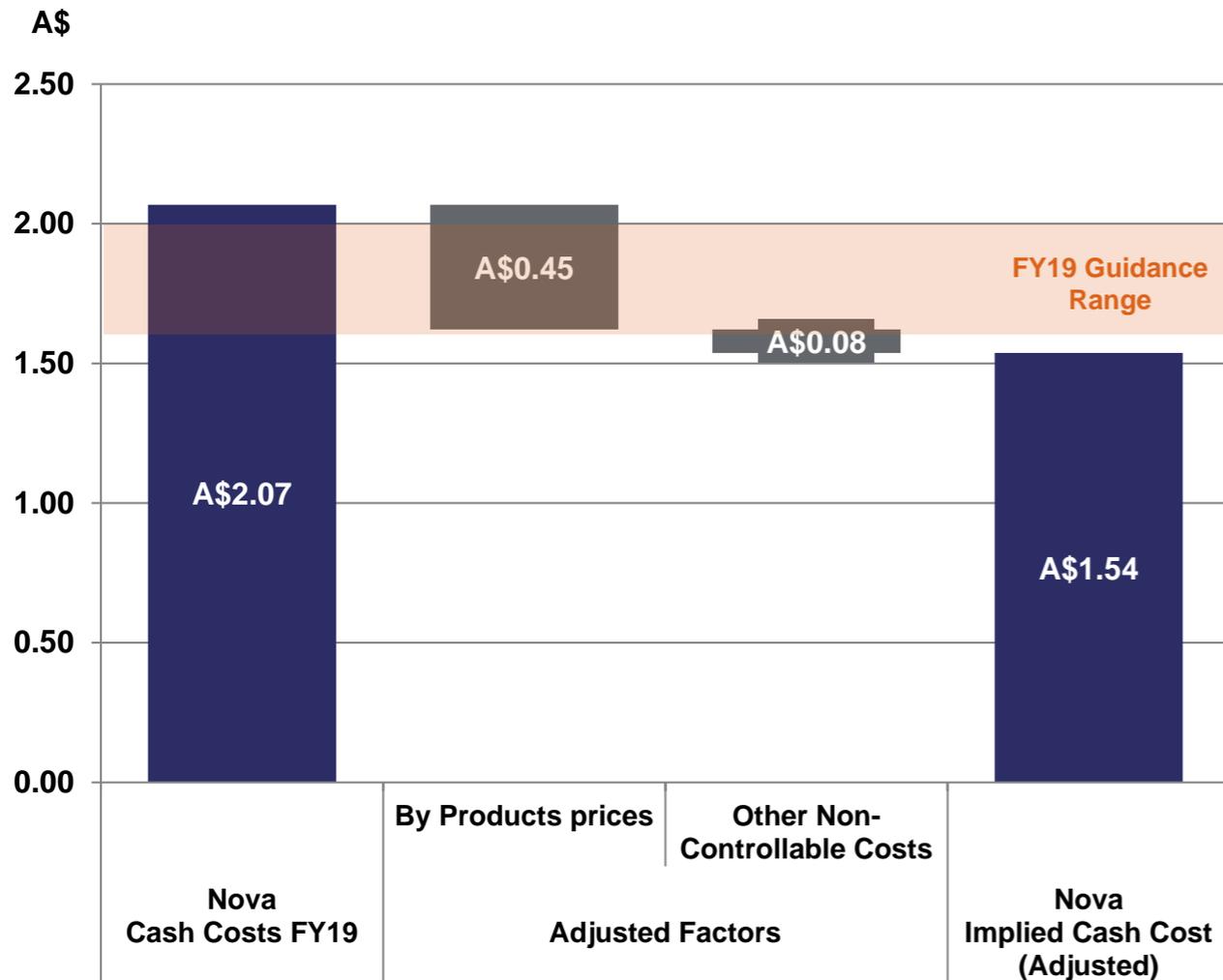
23%
YoY increase in cash costs due to lower by-product credit prices

FY19 Costs

Impacted by lower by-product prices than forecast



Cash Cost Reconciliation



1) By-product prices assumed in setting FY19 guidance were: Copper: A\$4.08/lb; Cobalt: A\$50.00/lb
 2) FY19 realised by-product prices: Copper: A\$3.90/lb; Cobalt: A\$29.00/lb

3.5%

Higher than top-end of FY19 Guidance

22%

Of C1 cash costs driven by variance in by-product commodity pricing assumptions

7%

Below bottom end of guidance on C1 cost basis if adjusted to site controllable factors

Site Costs

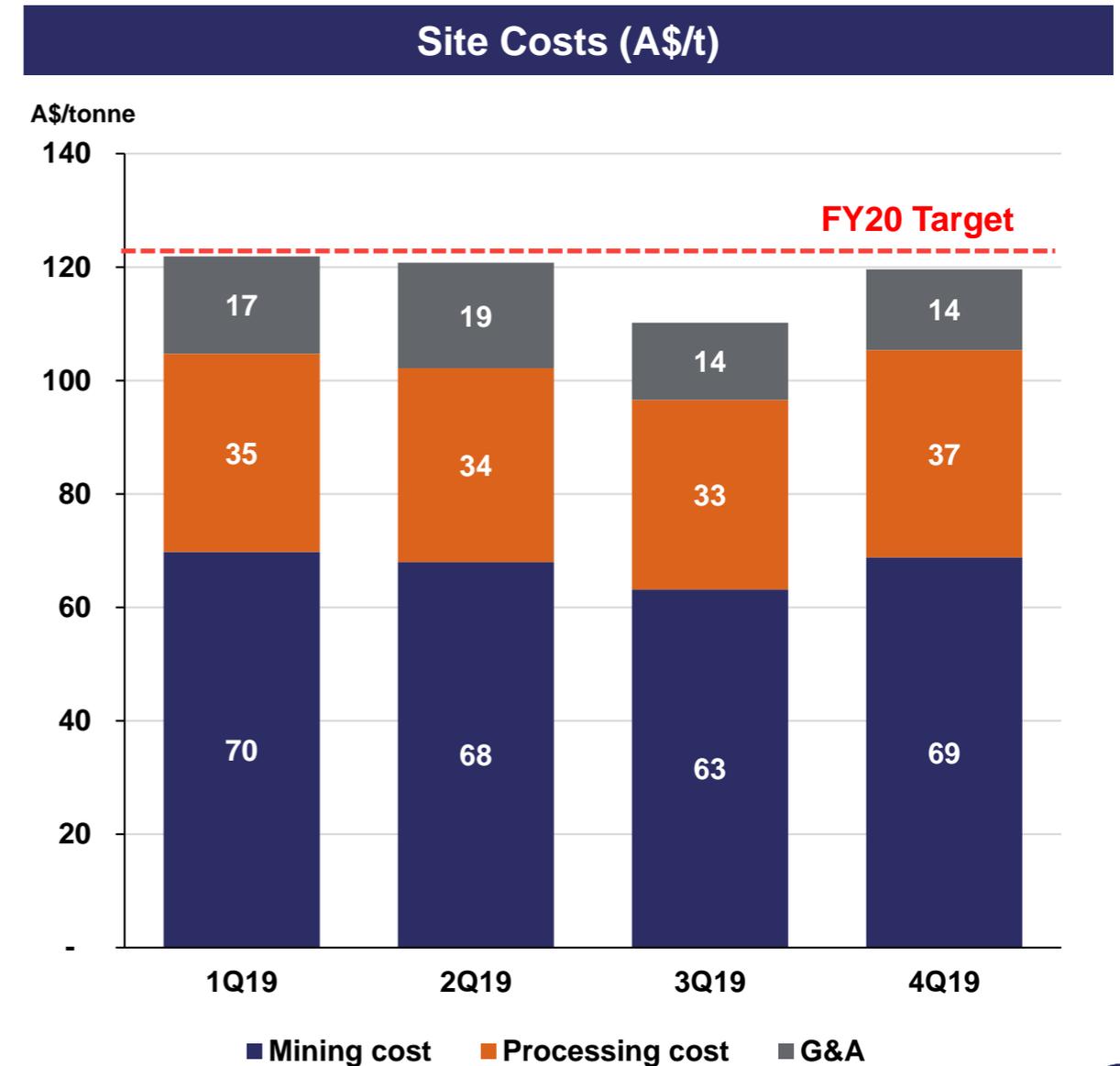
Continued focus on productivity and efficiencies



FY20 costs forecast to marginally higher than FY19 (\$/tonne basis)

Several programs underway to optimise and maximise margins

Two years of commercial production improves reliability of cost forecasting



Metric	Units	FY19 Guidance	FY19	FY20 Guidance
Sustaining/ improvement Capex	A\$M	21 – 24	11.2	24 – 26
Development Capex	A\$M	25 – 28	23.0	6 – 8



Sustaining / Improvement Capex

50%

Reduction of FY19 actual compared to mid-point of guidance

11%

Increase in capex focused on water treatment and supply

Development Capex

13%

Improvement of FY19 actual versus mid-point of guidance

70%

Reduction in FY20 due to underground capital largely complete

FY20 Nova Guidance⁽¹⁾

Consistent performance and high margin projected into FY20



Metric	Units	FY20 Guidance
Nickel in concentrate	t	27,000 – 30,000
Copper in concentrate	t	11,000 – 12,500
Cobalt in concentrate	t	850 – 950
Cash cost (payable) ⁽²⁾	A\$/lb Ni	2.00 – 2.50
Sustaining/ improvement Capex	A\$M	24 – 26
Development Capex	A\$M	6 – 8

- **FY20 production forecast in line with FY19 guidance**
- **Cash costs projected to be marginally higher YoY due to:**
 - Lower production & development capital vs FY19
 - Forecast increase in shipping costs in FY20
 - Lower diesel hedge gains in FY20
- **Significantly lower development capex forecast reflects completion of the majority of underground development during FY19**

1) Refer to ASX release dated 31 July 2019 – June 2019 Quarterly Activities Report

2) Cash cost guidance assumes the following commodity prices for payable metal credits: Copper: A\$4.20/lb; Cobalt: A\$24/lb





Smart Solutions

Innovation & Technology

SMART SOLUTIONS



Care

Leveraging technology to doing what is right because we care for the wellbeing of our employees, our impact on communities and the environment



Step-Change

Potential to deliver step-change opportunities for the future



Operational Excellence

Optimising our assets through productivity and efficiency improvements and cost reductions

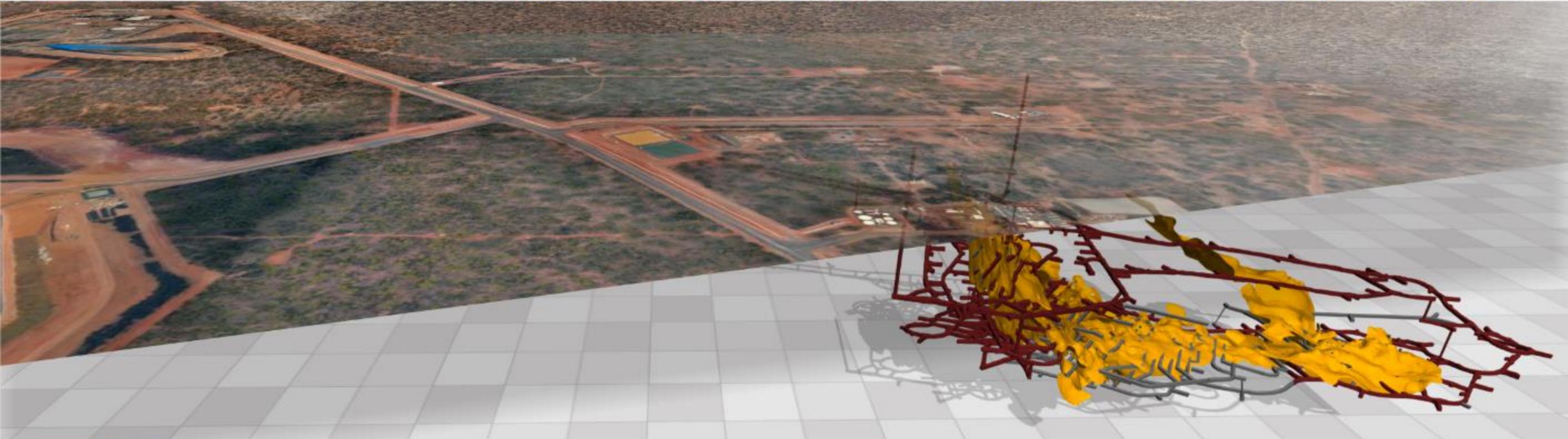


People & Culture

The way we work, the way we communicate and the way we collaborate

Leveraging technology and innovation with an ecosystem of partners

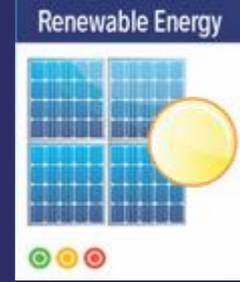




SMART SOLUTIONS USED AT NOVA OPERATIONS

IGO – Smart Solutions

Hybrid Diesel/ Solar Photovoltaic (PV) Facility



Project Overview

- 6MM Solar PV facility with 12.5GWh annual yield
- Fully integrated commercial diesel-solar facility
- ~8th world's largest solar PV facility on a mine site by capacity⁽¹⁾
- Producing up to 45- 50% of site power with full sunshine

Technologies utilised

- 14,000 panels of 400Wp each
- Single Axis Tracking to maximise yield
- Fulcrum 3D Sky Camera to estimate cloud impact and optimise spinning diesel reserves

~13-17%
Reduction in diesel usage

5,200t
CO₂ equivalent reduction

~15-20%
Nova's energy requirements

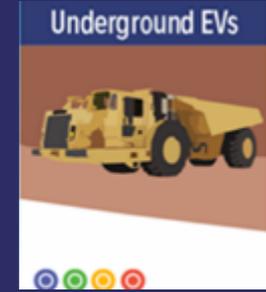
Our partners



1) Source: Energy & Mines October 2018

IGO – Smart Solutions

Electric Vehicles / Electric Mines



Opportunity to electrify underground mining fleet

- Improved working environment
- Energy savings
- Reduction in ventilation requirements
- Reduced carbon emissions
- Less moving parts – cheaper maintenance

IGO exploring all electric underground mining

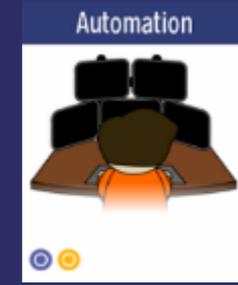
- Starting Nova today with an all-electric fleet:
 - Same operating practices and mining methods
 - Indicates step-change reduction in development capital
 - Reduced operating costs
- Converting Nova to all-electric
 - Roadmap to electrification is being developed
 - Transitioning existing operations is more challenging
 - Equipment trials

Developing roadmap towards electrification



Our partners





Surface remote loading

- Up to five loaders capable of being operated by one operator on surface
- Utilised over shift change and blasting times when underground access is restricted
- Improved productivity, delivered cost savings and improved safety

Production Drilling

- Automated drilling utilised, and investigating remotely controlled drilling

IGO committed to continued automation

- Completed global benchmarking of automation capacity
- Investigating Perth based control centre



300t - 400t/day
Average production over shift change when operational

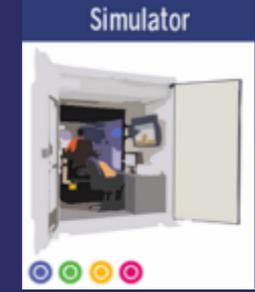
1 loader
Reduced from the fleet

Our partners



IGO – Smart Solutions

Training - Simulator



Use of Simulator at Nova to improve productivity performance of underground activities

- Training
- New skills (and old habits)
- Performance based measures

Simulator is proven to provide

- Improved safety behaviours
- Improved productivity
- Reduced equipment damage
- Improved fleet utilisation

Our partner



Utilisation of the Simulator at Site





Drone technology used at Nova

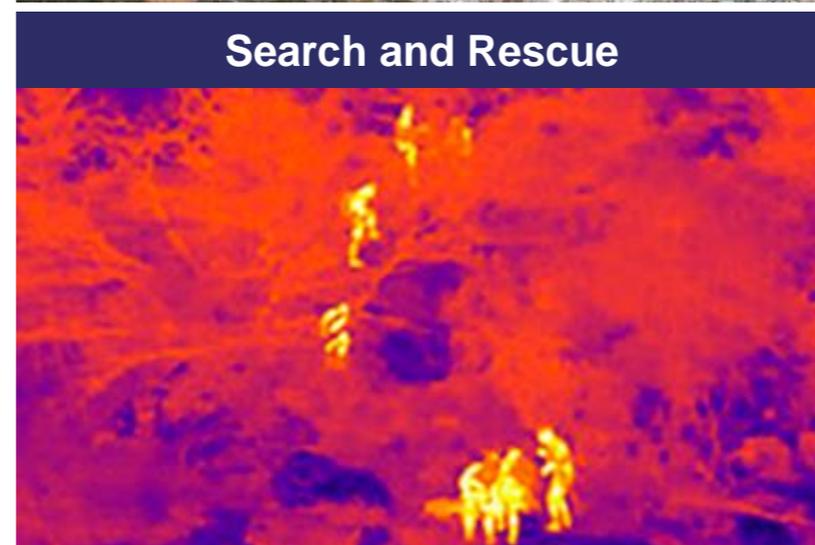
- Conventional drone (Phantom P4) and fixed wing (Quantum Trinity)

Advantages of spatial data acquisition via UAV photogrammetry:

- Remote access and improved safety
- Efficiencies
- Improved accuracy

Applications at Nova

- Bushfire management
- Routine survey pickups of surface stockpiles and ROM management
- Environmental management of disturbance
- Underground void management (in trial)



IGO – Smart Solutions

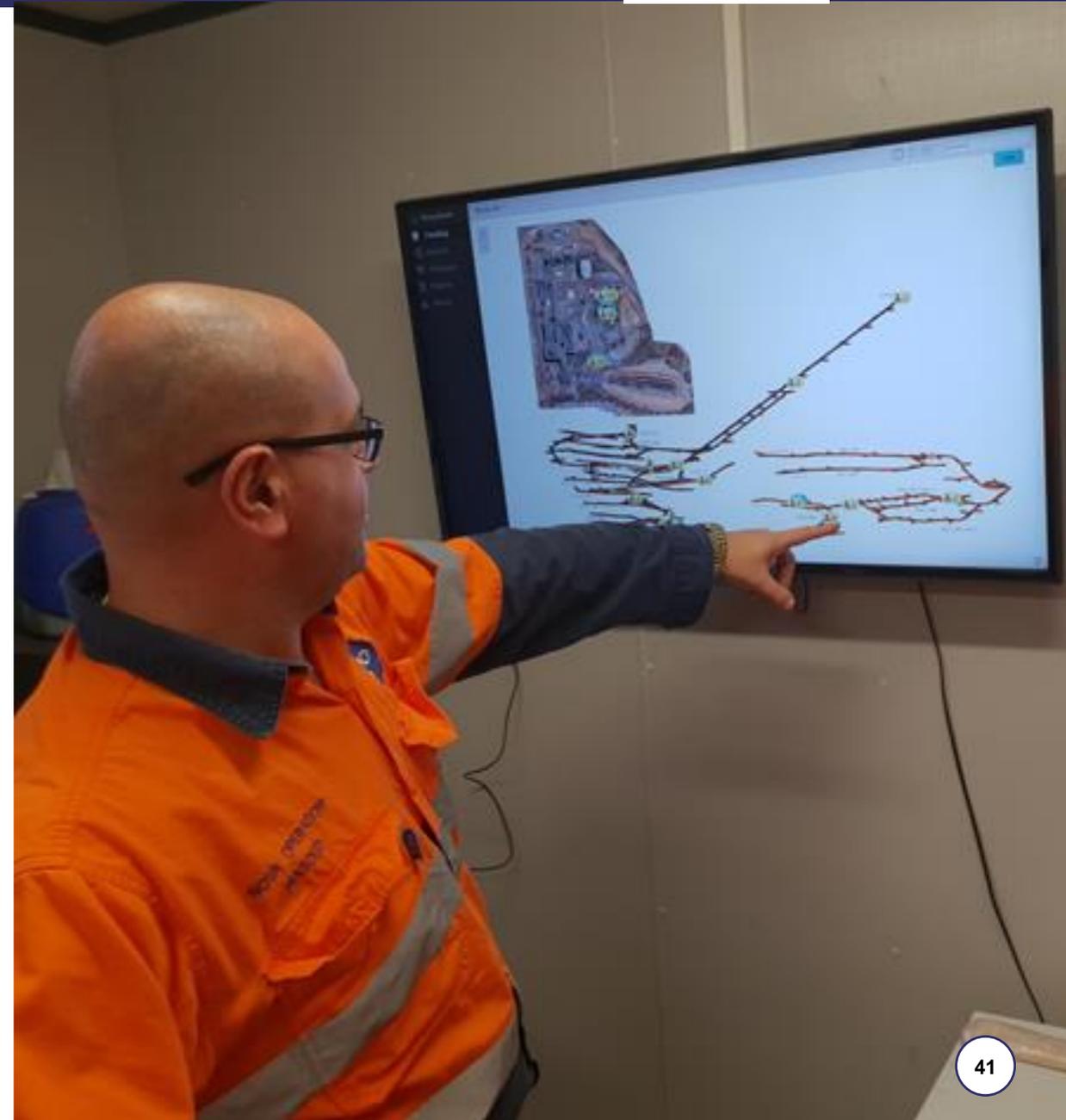
Tracking System



Real-time tracking of people and equipment underground

Key benefits include

- Improved safety
 - Monitoring of lone workers underground
 - Better collision avoidance
 - Enhanced accounting for personnel in emergencies
- Increased productivity and short interval control



Our partners



IGO – Smart Solutions

Surface Firing

Surface Blasting
Blaster 3000



First underground mine in WA to implement full network firing from surface

Benefits include

- Safety
 - No person underground during firing
 - Digital link with personal tracking
 - Removes need for end-of-shift hook up
- Reliability
 - Testing possible during operational hours
- Flexibility
 - Multiple production firings in multiple areas
- Reporting
 - Instantaneous analysis of data post firing

Our partners



IGO – Smart Solutions

Data Capture, Process and Analytics

Data Capture,
Process and Analytics



Integrated Mill Control

- Direct import from the source – lab or field
- Improved real time data and production status

Integrated Mine Control

- Live automated data capture
 - no lag in understanding production status
 - One source of truth
- Pitram Mobile & Pitram Connect
 - Portable data for managers & shift boss
 - Live data feed to and from equipment / operators
 - Operator accountability



Our partners

Barmenco
underground mining excellence

MICROMINE
Intuitive Mining Solutions

MINTEK

Nickel Sulphate

Nickel Sulphate

A critical raw material for lithium-ion batteries



Nickel sulphate is a key raw material within the cathode of modern lithium ion batteries

Strong demand forecast from the lithium-ion battery industry

- Rapid growth of electric vehicle market
- Increasing nickel intensity in batteries to deliver increased energy density (range)

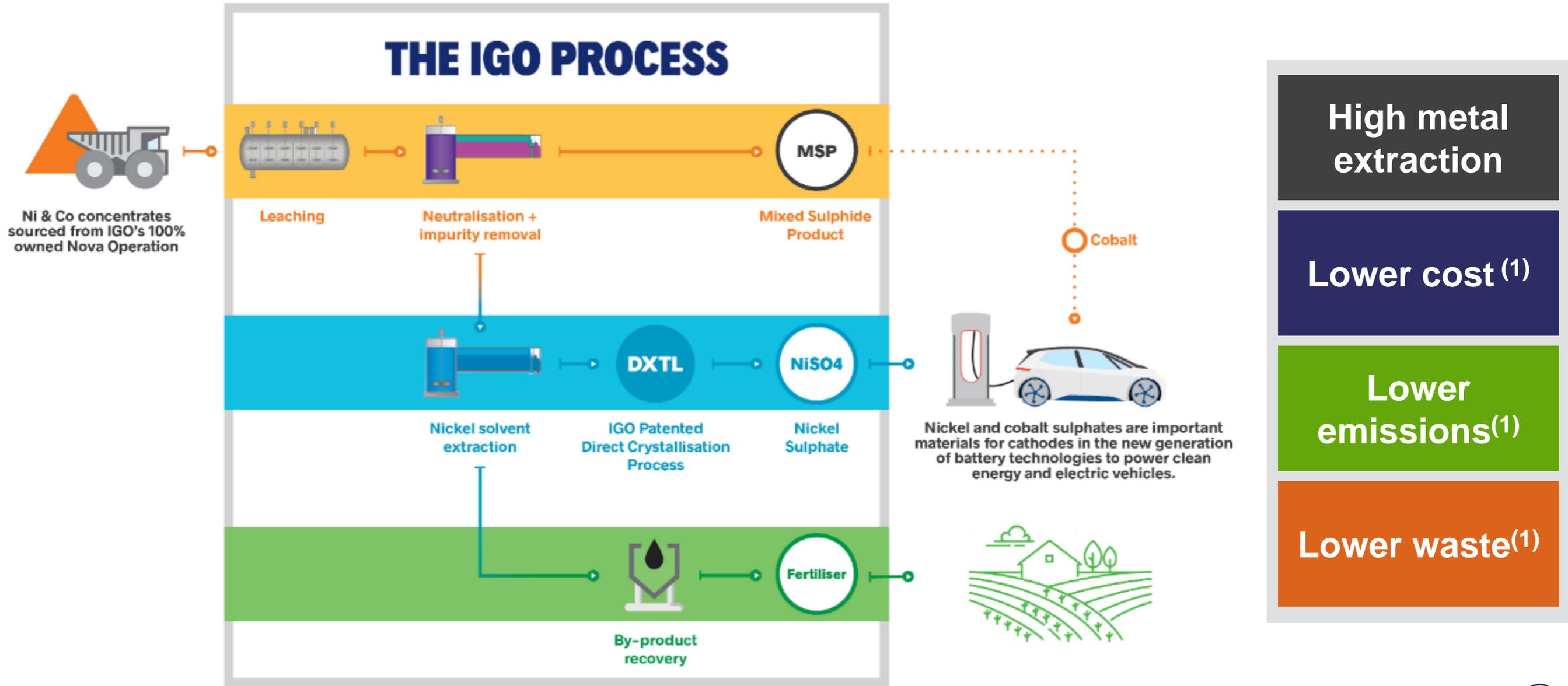
Producing a battery grade nickel sulphate would deliver

- Significantly higher payabilities
- A premium price for nickel sulphate over the LME⁽¹⁾ nickel price
- Directly placing IGO in the energy storage supply chain

1) London Metal Exchange

The IGO Process™

A disruptive process to convert nickel sulphide concentrate into nickel sulphate



1) Compared to existing alternative processes to convert nickel concentrate to nickel sulphate

Testwork Overview

Extensive testwork conducted at bench and pilot scale



1

Feed Optimisation

Flotation optimisation through reduction of S:Ni ratio to lower oxygen consumption and waste precipitation

2

Pressure Oxidation

Both batch and continuous autoclave testwork to identify conditions to maximise nickel extractions at range of temperatures and pressures

3

Solvent Extraction

Range of solvent extraction reagents tested including caustic, ammonia and magnesia

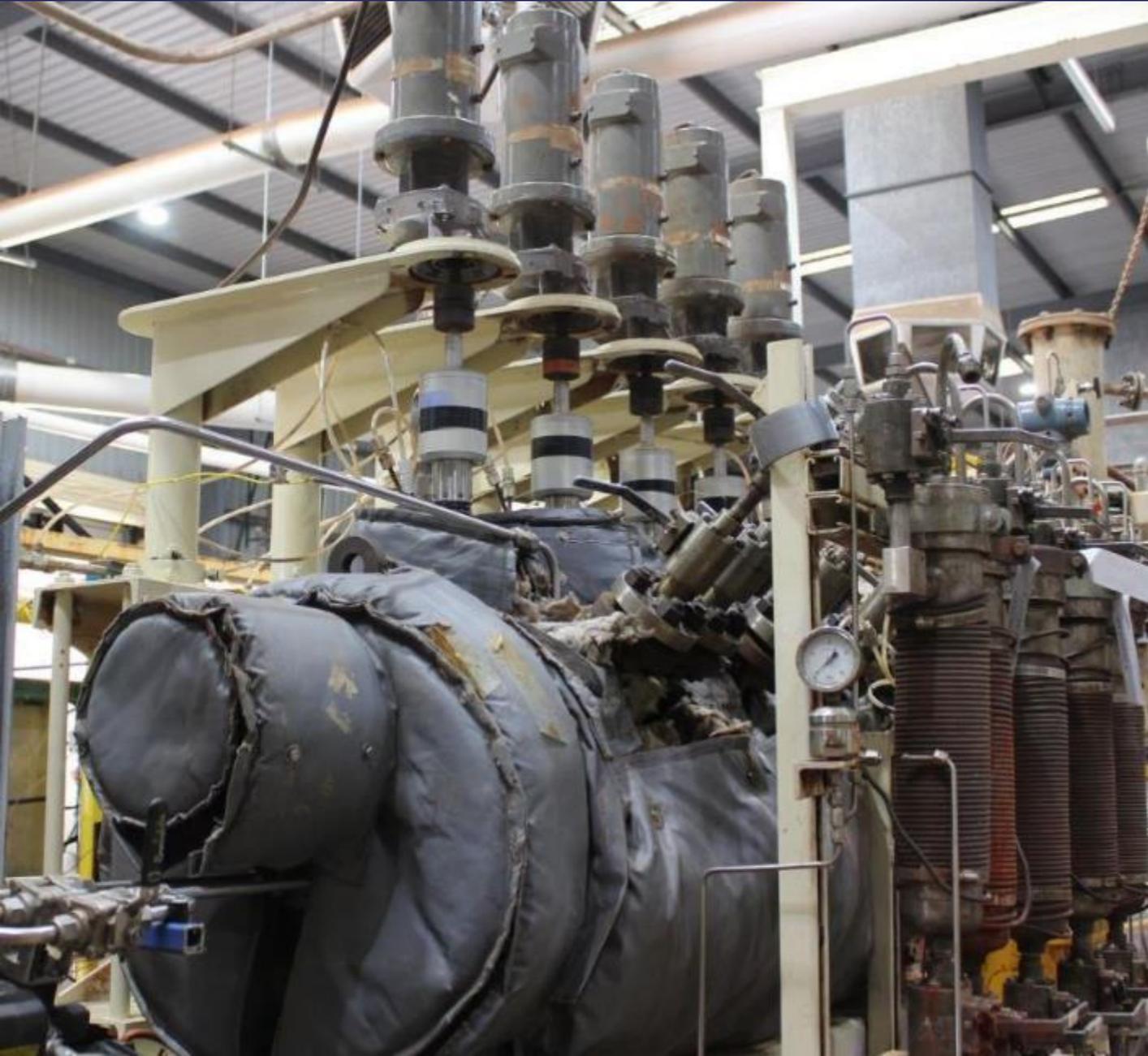
4

Crystallisation

Production of nickel sulphate at various quality specifications using both conventional and crystallisation technologies

POX Pilot Plant

Continuous pilot plant testwork outcomes



Key achievements

- Very high nickel and cobalt extractions
- High level of sulphide oxidation
- High percentage of iron precipitation in leach gives stable wastes

Parameter	Performance
Nickel Extraction	>97%
Cobalt Extraction	>97%
Residue Sulphide	<1%
Soluble Iron	<1g/l

Waste Optimisation and By-Products

Reducing our footprint and unlocking locations



IGO is striving towards a zero discharge flowsheet

Key focus on minimisation of waste streams, including:

- Global technology review for tailings treatment
- By-product production
- Water reuse



Fertiliser by-product



1) Image sourced from Indiamart.com

PFS Summary

Successful completion of extensive testwork program



Testwork Focus	Outcome	Comments
High nickel grade concentrate produced	✓	Bench and Nova plant scale campaigns produced a high nickel grade concentrate tailored for hydrometallurgical processes (high S:Ni ratio)
High nickel and cobalt extractions achieved	✓	Continuous pilot plant autoclave testwork confirmed that the process is robust and easily achieves nickel and cobalt extractions of >97%
Applicable to high arsenic concentrate feeds	✓	Studies on an alternate concentrate feed material with ~3000ppm arsenic demonstrated that battery-grade nickel sulphate could still be produced
Produce battery grade nickel sulphate	✓	A two step solvent extraction circuit yields very pure nickel sulphate solutions feeding IGO's DXTL crystallisation step that produces materials that meet battery quality product specifications
Saleable by-product options available	✓	Use of ammonia in the IGO Process has allowed for the solution condition purity required for ammonium sulphate fertilizer by-products
Demonstrate low process energy requirement	✓	Use of low temperatures and pressures in leaching and the DXTL step in purification gives the IGO Process energy reduction advantages
Demonstrate low waste generation	✓	Lower iron feed grades plus low soluble iron plus low free acid levels exiting leaching yields lower tonnages of waste than other POX circuits
Confirm applicability to range of nickel unit feed inputs	✓	The IGO Process and purification steps are flexible and can treat various nickel concentrates, MSP and MHP to produce nickel sulphate

Project Location

Site selection trade-off studies



A detailed trade-off study was undertaken for four locations, including separate site specific studies

These included:

- Community and environmental factors
- Approvals and land acquisition
- Power and water
- Waste disposal
- Transport and infrastructure
- Workforce
- Synergies

IGO continues to engage with government to understand potential support and approval streamlining for the PFS



Power



Transport



Workforce



Water



Waste Disposal



Environment / Community

PFS Delivery

Project status and next steps



IGO is on track to deliver the PFS by end of CY19

This will include:

- Extensive testwork results
- Optimum flowsheet
- Preferred location in WA
- Cost reduction opportunities, e.g. partner synergies, reagents, etc

IGO continues to engage with potential partners in Australia and internationally

An aerial photograph of an exploration site in a scrubland landscape. The terrain is covered with dense, low-lying green and brown vegetation. A dirt road winds through the area. In the center, a large yellow drilling rig is positioned next to a white truck. A small white building is also visible near the rig. The sky is a mix of orange and blue, suggesting a sunset or sunrise. A dark blue horizontal bar is overlaid on the bottom left of the image, containing the word 'Exploration' in white text.

Exploration

Exploration Overview

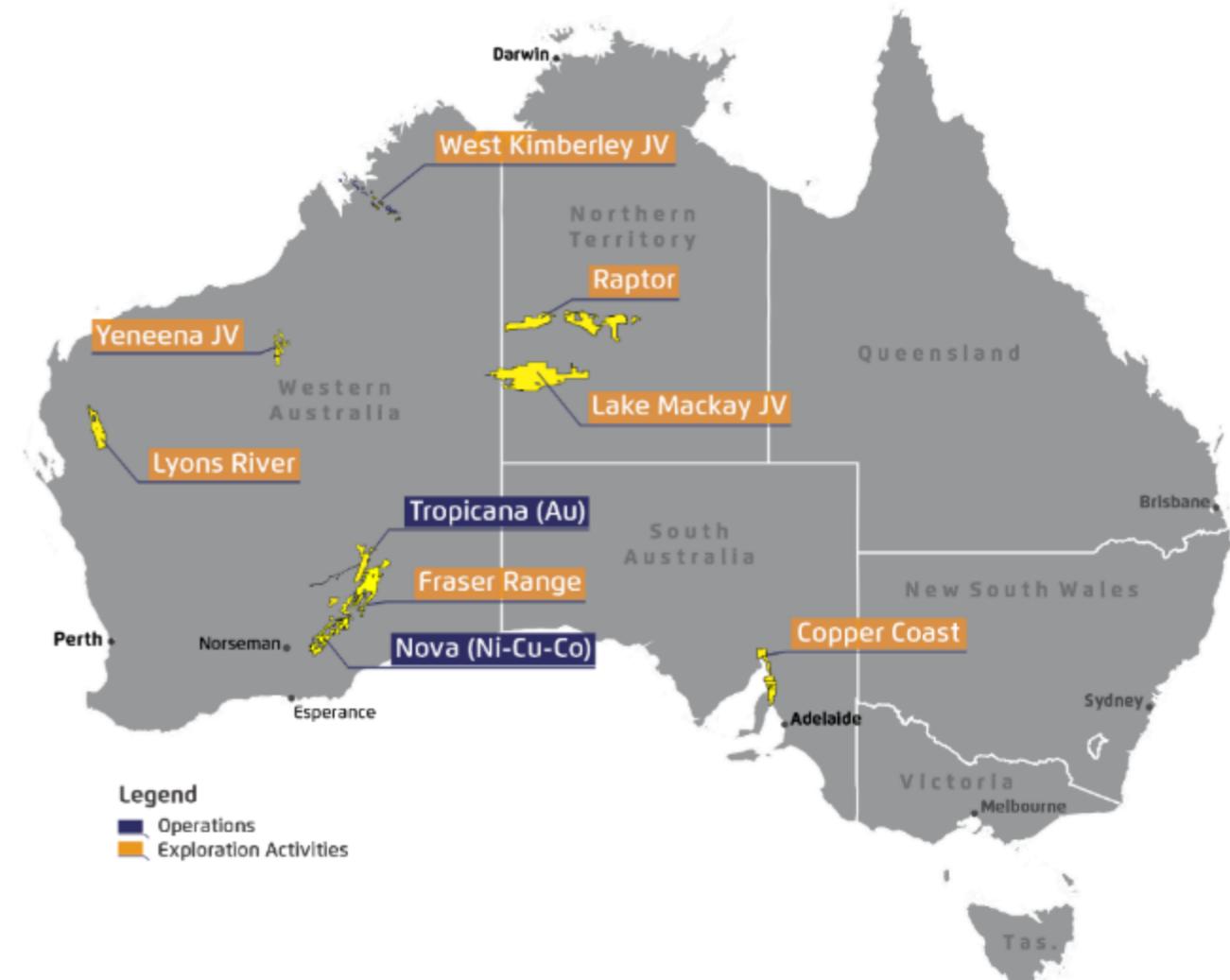
A key enabler of IGO's growth strategy



Exploration activity transitioning to high impact drilling in FY20

Belt scale land positions with the potential for significant base and precious metals discoveries

Large pipeline of new targets

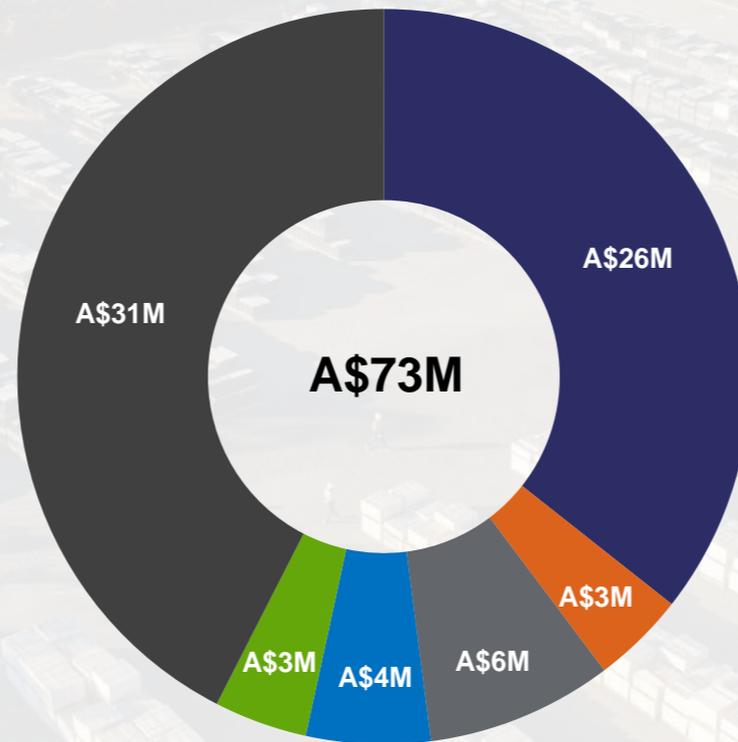


FY20 Exploration Budget

120% increase in planned Nova near mine exploration



FY20 Exploration & Evaluation Guidance⁽¹⁾



- Nova
- Project Evaluation
- Lake Mackay
- Tropicana
- West Kimberley
- Other Greenfields & Generative

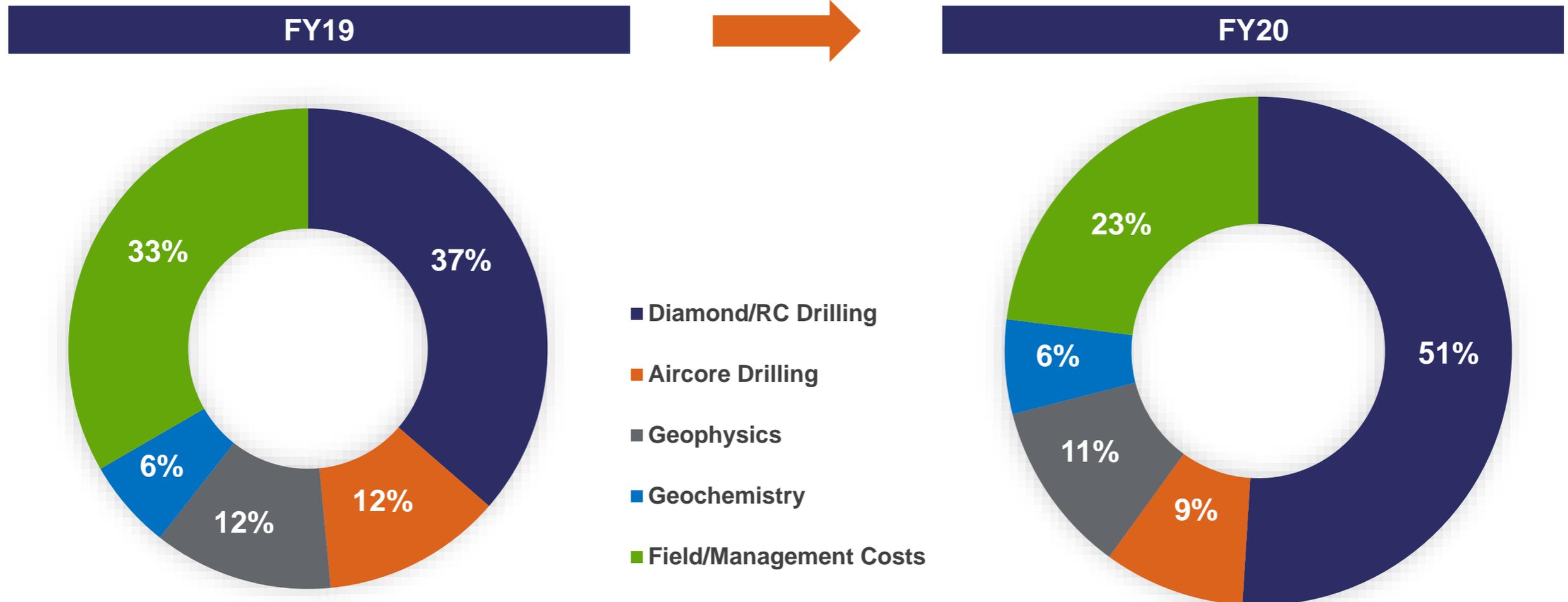
¹⁾ Amounts represent the midpoint of FY20 Guidance. See ASX Announcement dated 31 July 2019 – June 2019 Quarterly Activities Report

Exploration Overview



~60% of budget is for drilling in FY20

- Transition to drill testing & target definition programs, plus extensive integrated data interpretation & targeting
- Big focus on Nova Near-mine seismic and MLEM target drilling



Why the Fraser Range?

Why Explore in the Albany Fraser Belt?

Underexplored region with high potential for discovery



- Orthomagmatic Ni-Cu deposits often occur along entire belts
- The Thompson, Pechenga, Raglan and Sveccofenian Belts all have multiple deposits and prospects along them
- The Albany Fraser Belt is demonstrating it too has Ni-Cu sulphides along its entire length
- The presence of Ni-Cu sulphides in mafic-ultramafic rocks are the best indicators that massive Ni-Cu sulphide ore deposits likely occur within the belt

Albany Fraser Belt (0.3Mt Ni metal)



Thompson Belt (2.7Mt Ni metal)



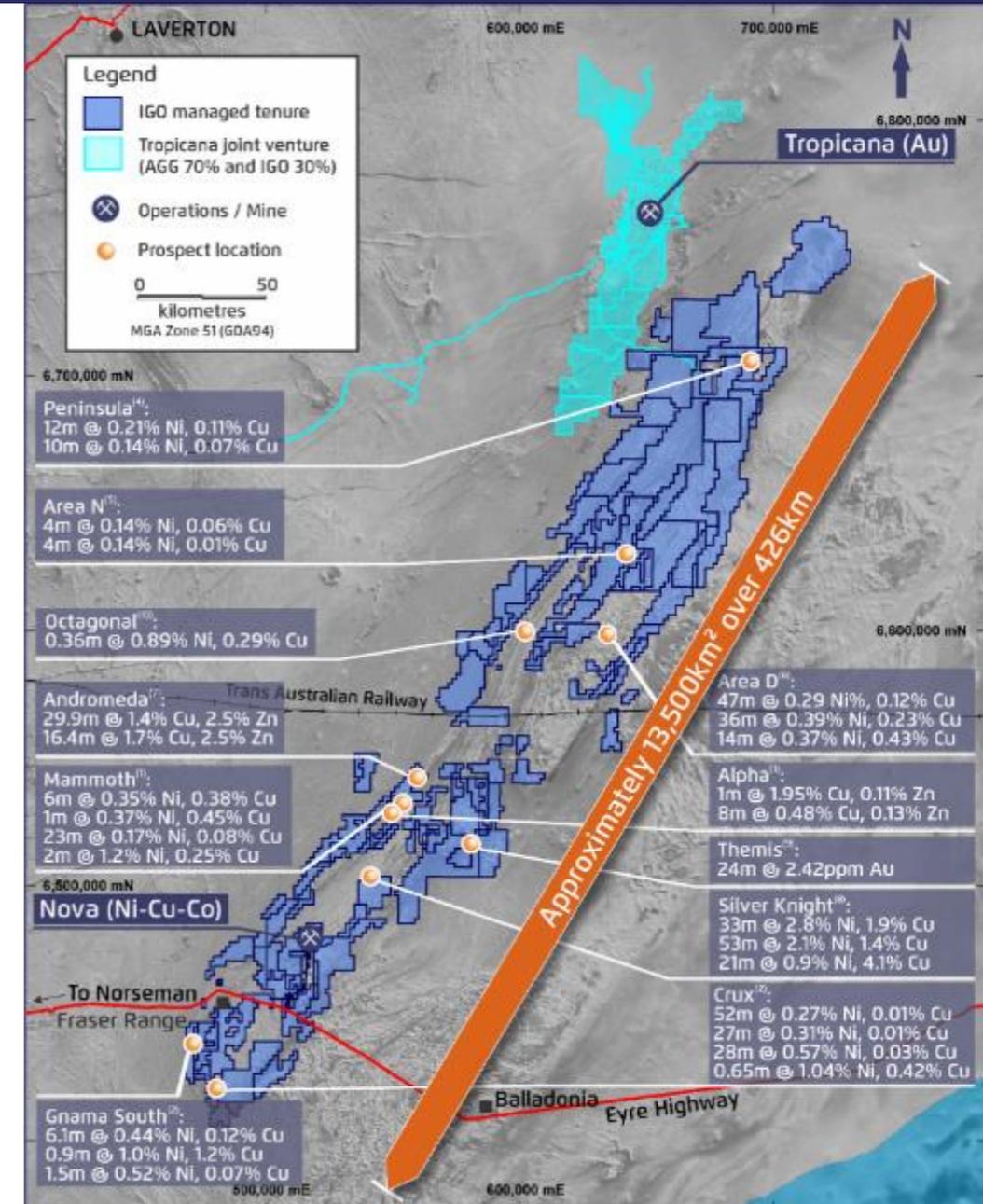
1) Silver Knight details released by Creasy Group Application for M28/395 20 July, 2018; Octagonal details released by Legend Mining ASX Release 9 July, 2019

Why Explore in the Albany Fraser Belt?



Several mafic/ultramafic intrusions occur along the Albany Fraser Belt

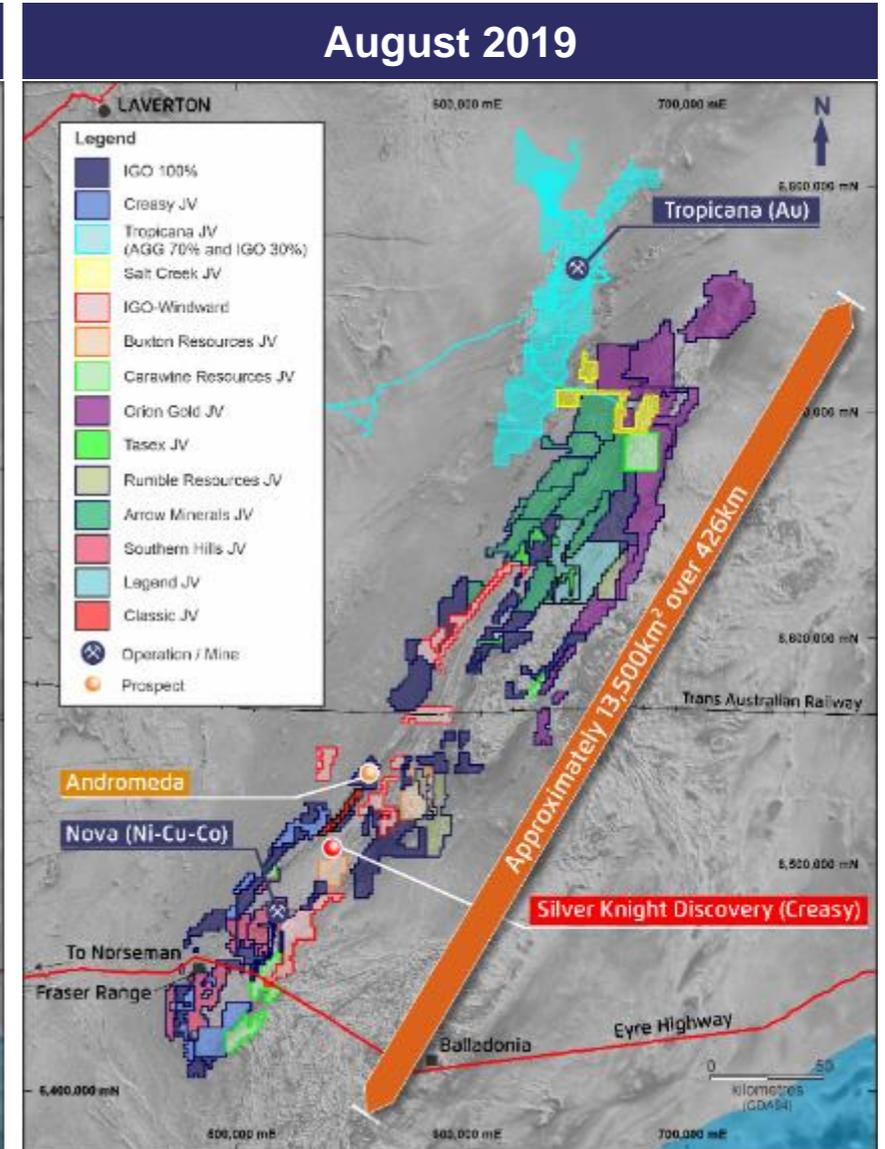
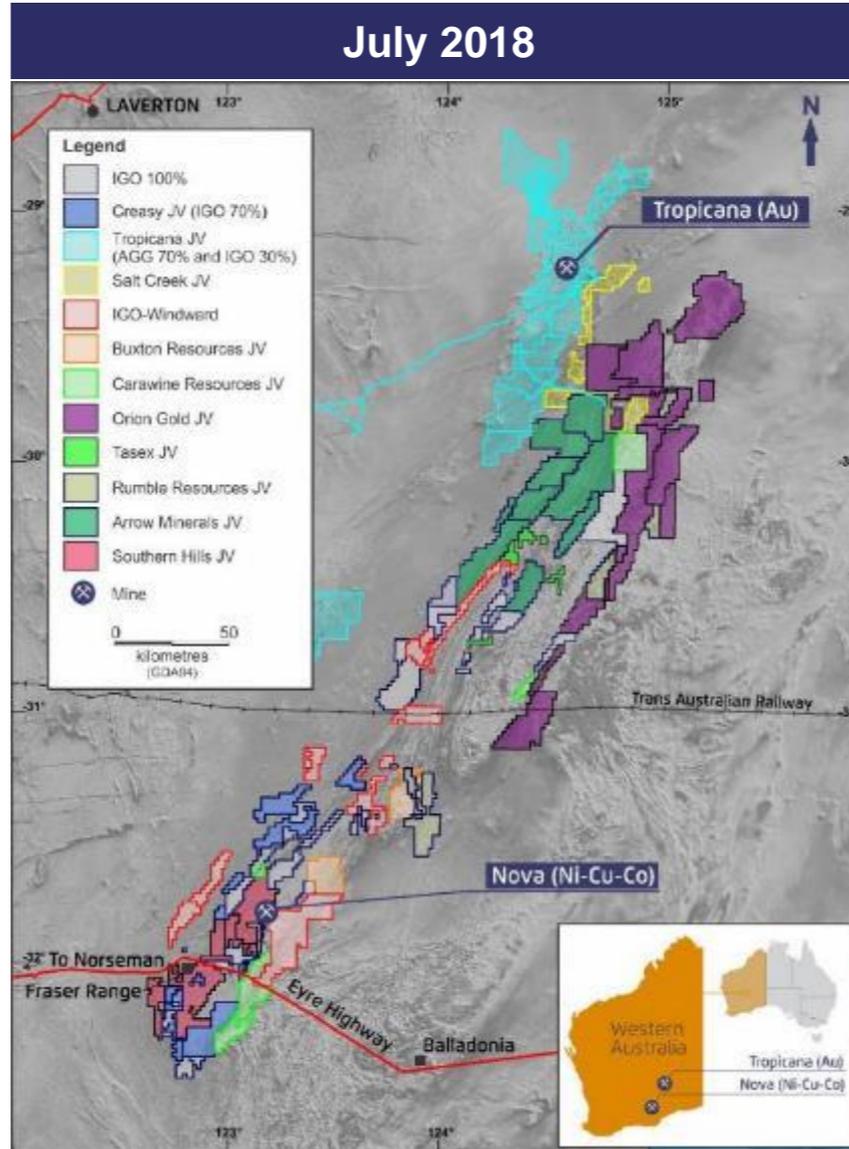
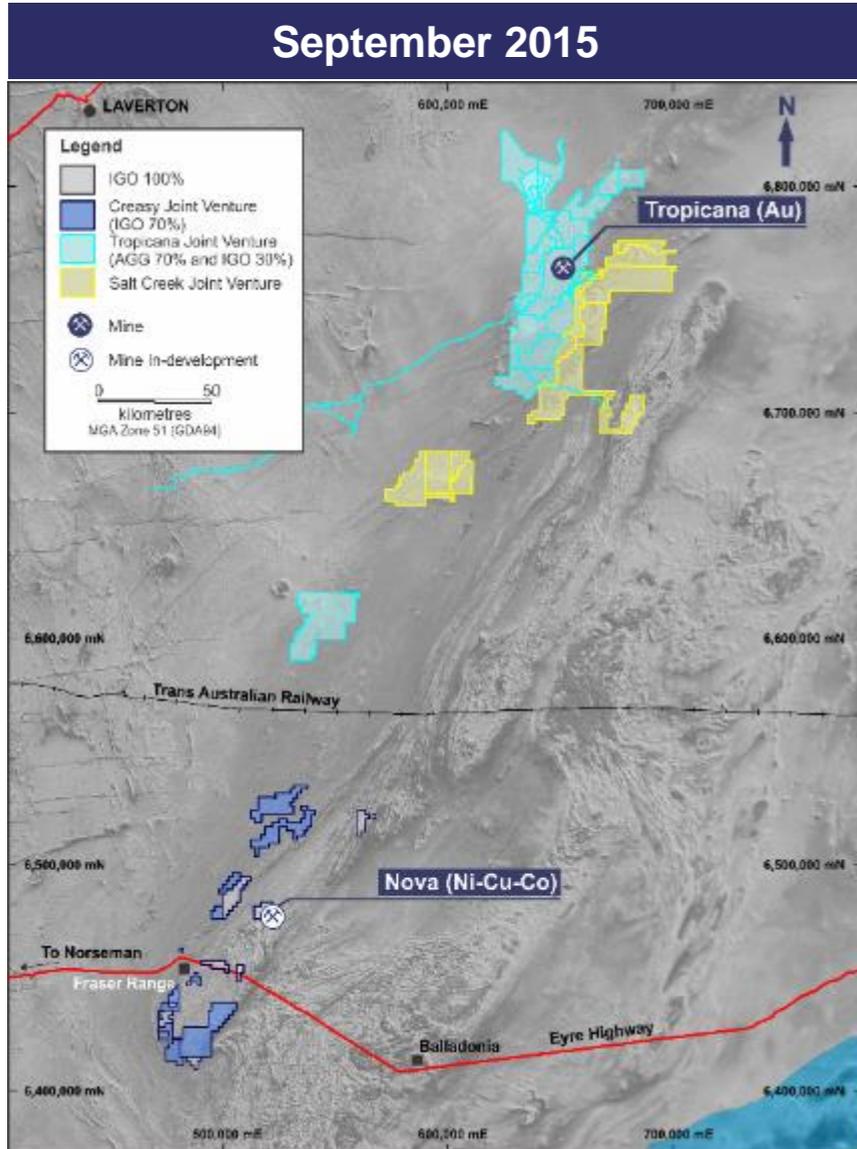
- Multiple companies have reported magmatic Ni-Cu sulphides in mafic and ultramafic rocks along the entire belt.
- Sulphide occurrences range from disseminated to blebby to massive.
- The presence of multiple mafic/ultramafic intrusions, with Ni-Cu sulphides is typical for belts that host multiple Ni-Cu deposits.
- Recent discoveries highlight the potential for VMS Cu-Zn and gold



- 1) Classic Minerals ASX Releases: 29 August 2013, 12 December 2013 and 17 December 2016
- 2) Sirius Resources ASX Release June 2015 Quarterly
- 3) Enterprise Metals EIS Final Drilling Report to DMP: 25 July 2014
- 4) Orion Gold ASX Release 17 March 2014
- 5) Legend Mining ASX Release 6 June 2017
- 6) Legend Mining ASX Release 12 January 2018, 12 April 2018
- 7) IGO ASX Releases: 26 July, 2018 and 20 February, 2019
- 8) Creasy Group Application for M28/395 20 July, 2018
- 9) Rumble Resource ASX Release, 1 July, 2019
- 10) Legend Mining ASX Release 9 July, 2019

Why Explore in the Albany Fraser Belt?

IGO believes in the Albany Fraser Belt and is positioning itself for exponential growth

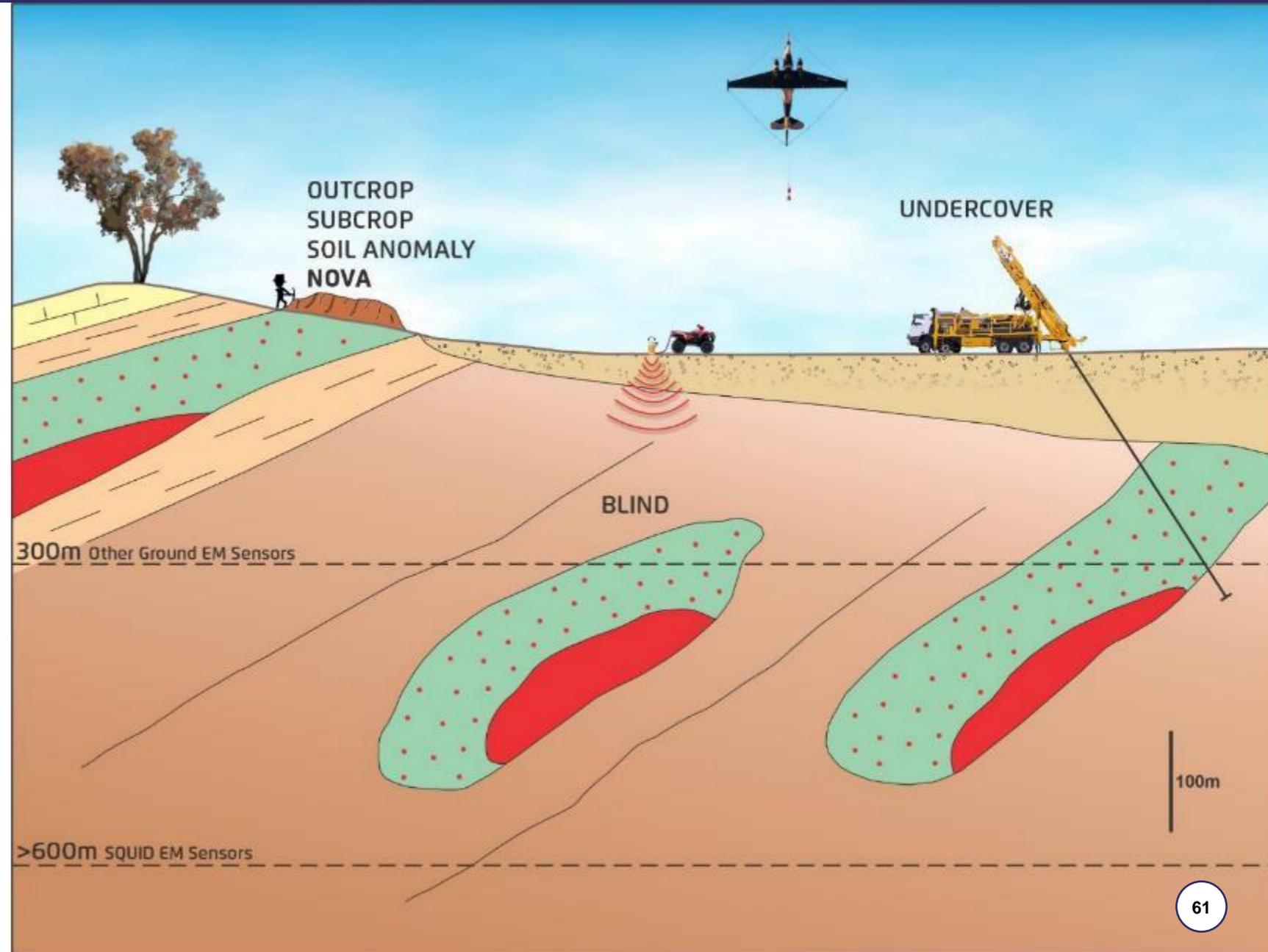


How to explore for Magmatic Sulphide Mineralisation



Exploration methodologies change with the search space

- Different ideas and technologies are required to explore the whole Albany Fraser Belt
- 'Toolbox' changes with the 'search space' (depth to target, cover thickness and cover type)
- Range of systematic approaches/technologies and ideas to make the next discovery
 - Airborne and ground Electromagnetics
 - Systematic Aircore drilling for geology and geochemistry
 - Gravity data
 - Diamond and RC drilling
 - R&D through tested institutions



The background image shows a mining site at dusk. A tall, yellow drilling rig stands in the center. To the right, a tall light pole with several lamps is illuminated. In the foreground, there are various pieces of equipment, including a large white container and wooden pallets. The sky is a mix of purple and orange, and a line of trees is visible in the background.

Nova near-mine

Nova Near Mine Strategy

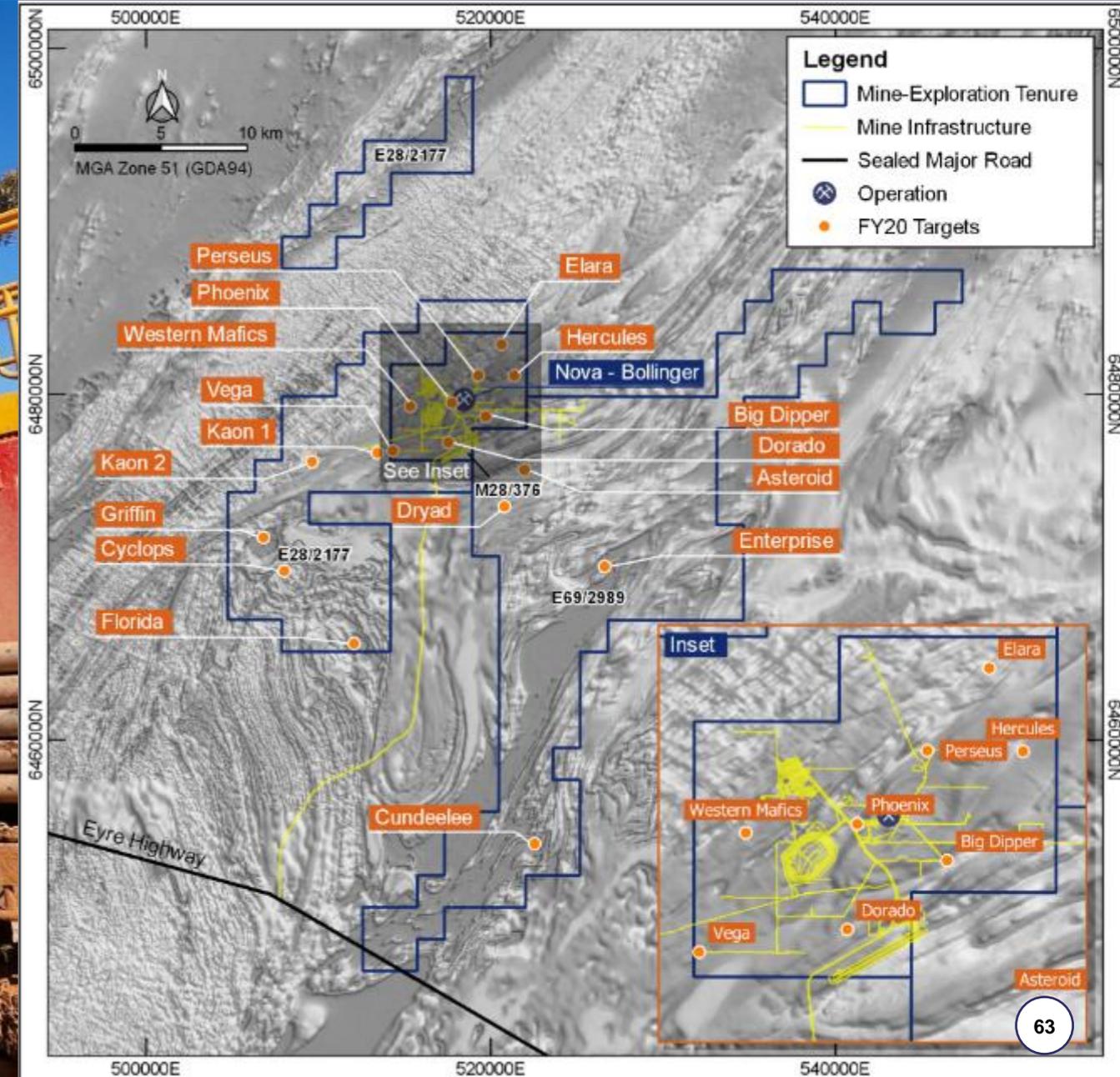
Focused on discovering the next Nova



Aggressively explore 577km² surrounding Nova

Apply LT SQUID to near mine tenements to generate drill-ready results

Continue testing 3D seismic and MLEM targets for fertile intrusions



FY20 Exploration Program

A full pipeline with multiple targets to test

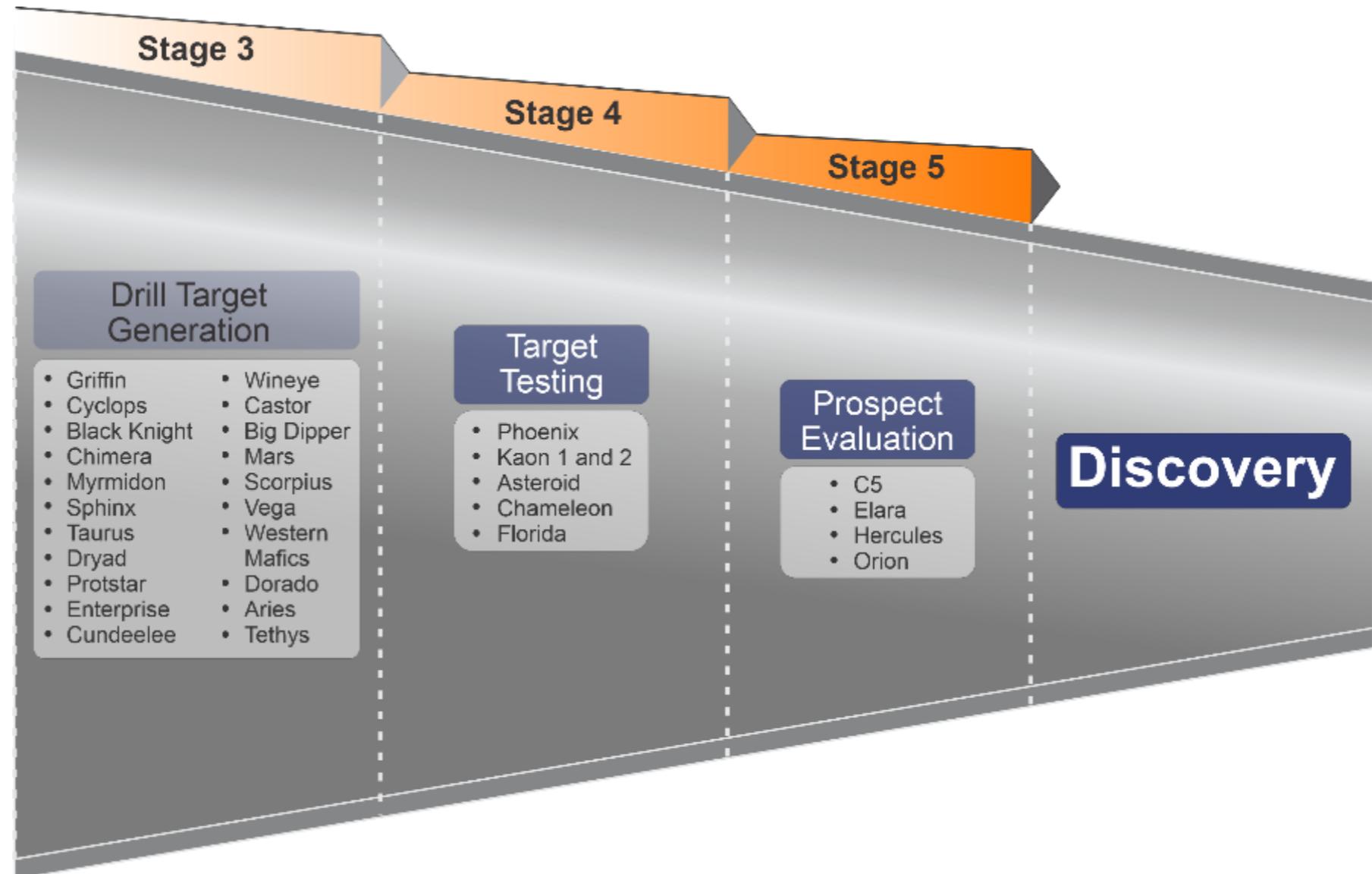


3D mine-scale model is identifying drill targets

LT SQUID is generating nearby drill targets

Live intrusions require more drilling

AEM dataset and AC drilling continue to identify new targets



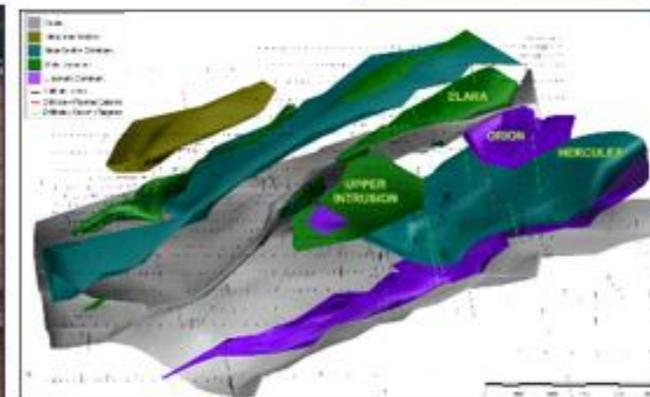
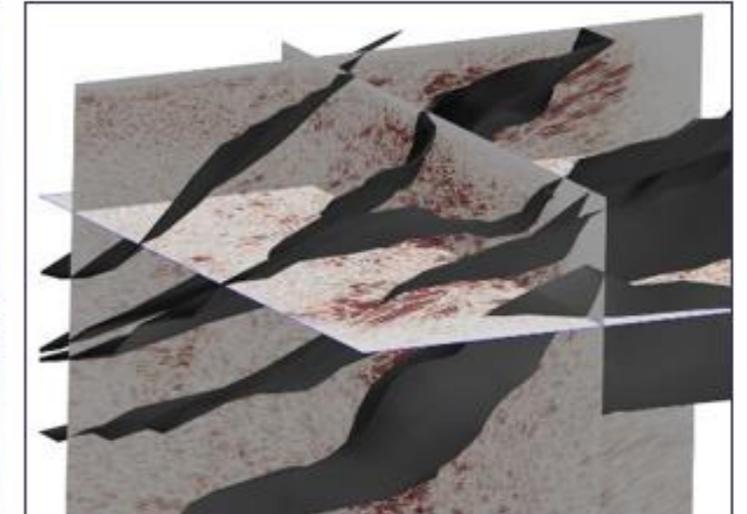
FY19 Program Overview



Focused on target generation using geophysics and geochemistry

Key activities completed:

- ✓ Seismic acquisition entire mining lease
- ✓ Relogging project
- ✓ Blanket Low Temperature SQUID coverage over ML
- ✓ Deep diamond drilling on mining lease
- ✓ Intersected Elara – Hercules – Orion Intrusions
- ✓ 3D Modelling and detailed geochemical interpretation



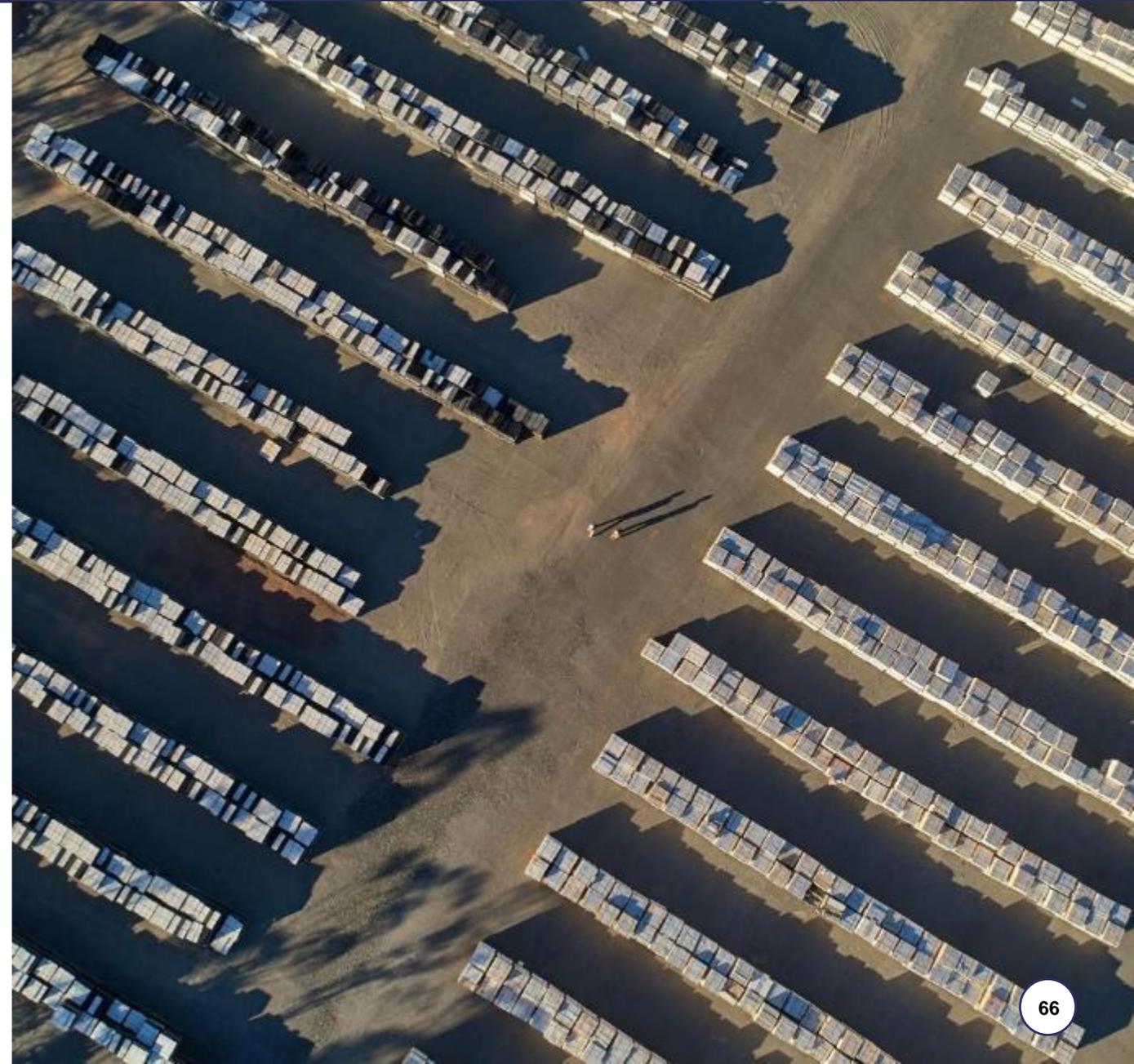
Drilling and relogging

Critical program to enhance long term success



Committed to maximising value from 3D seismic dataset to develop a pipeline of near-mine targets

- Relogged, sampled, analysed and interpreted >41,000m of core during FY19
- Developed a Targeting Framework focussed on
 - Structural controls especially fold architecture
 - Lithological control, recognising the role of contrast between rock types
- Identified and commenced drilling most compelling targets



3D Seismic Program

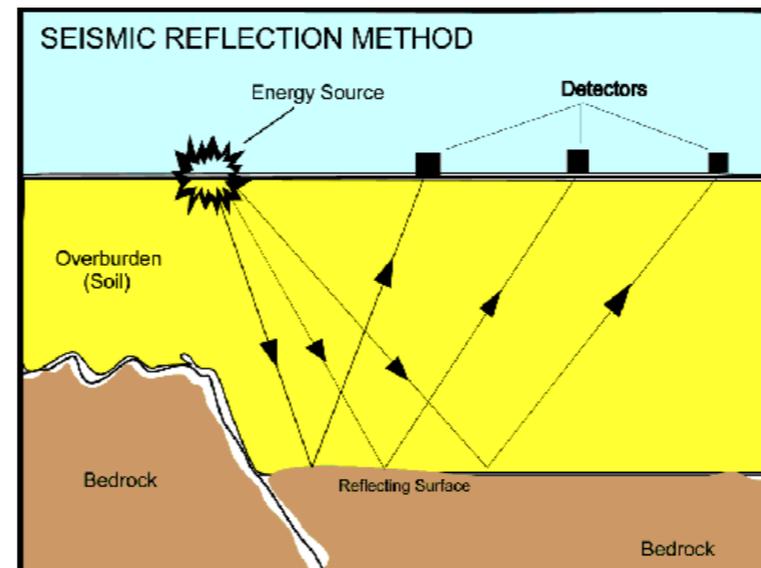
Efficient and cost effective data collection and target generation



IGO leverages 3D seismic as a key primary exploration tool

Data acquired over entire Nova mining lease

- Four months of active data acquisition
- ~600 line km's of track clearing
- 38,918 source points
- Bin size of 15m x 15m
- 4x VSP Surveys to aid depth correction
- Processed to 8.5km depth
- \$4.6M of acquisition/processing costs

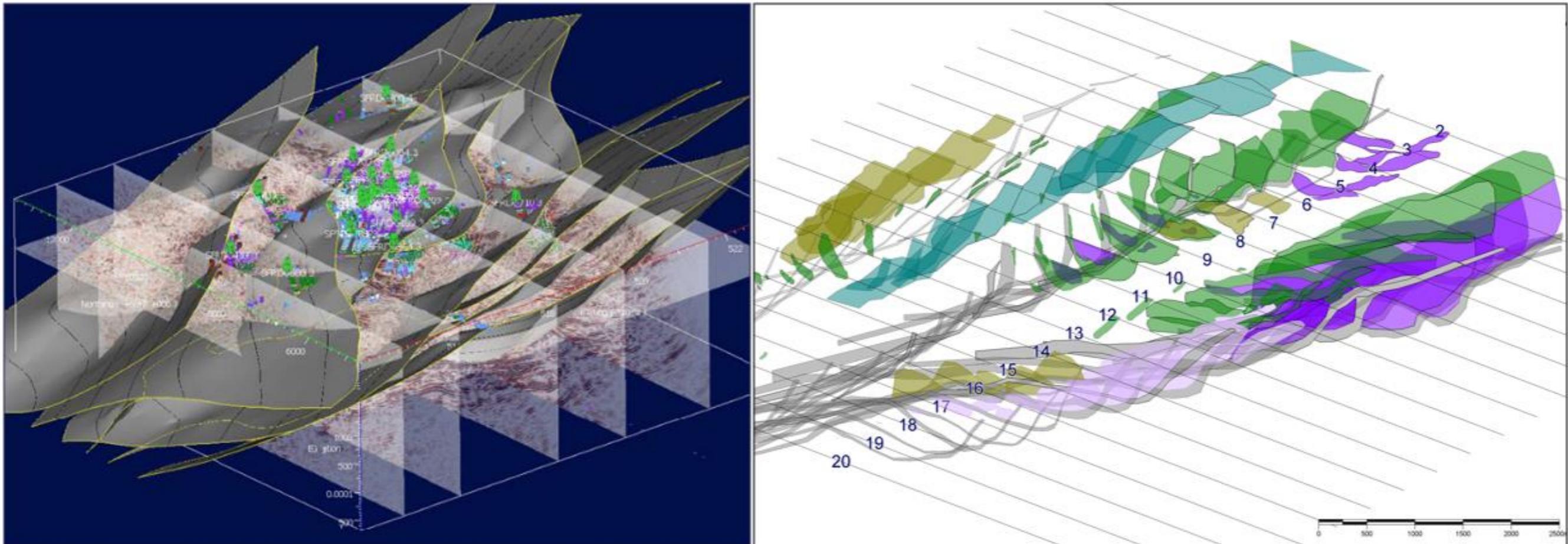


3D Seismic Program

Interpreting the 3D seismic dataset



- IGO's 3D model has identified several drill-ready targets by mapping **fault, fold and intrusion networks**
- The geological sections honor **structural architecture, 3D seismic data, lithostratigraphy, and geochemistry**

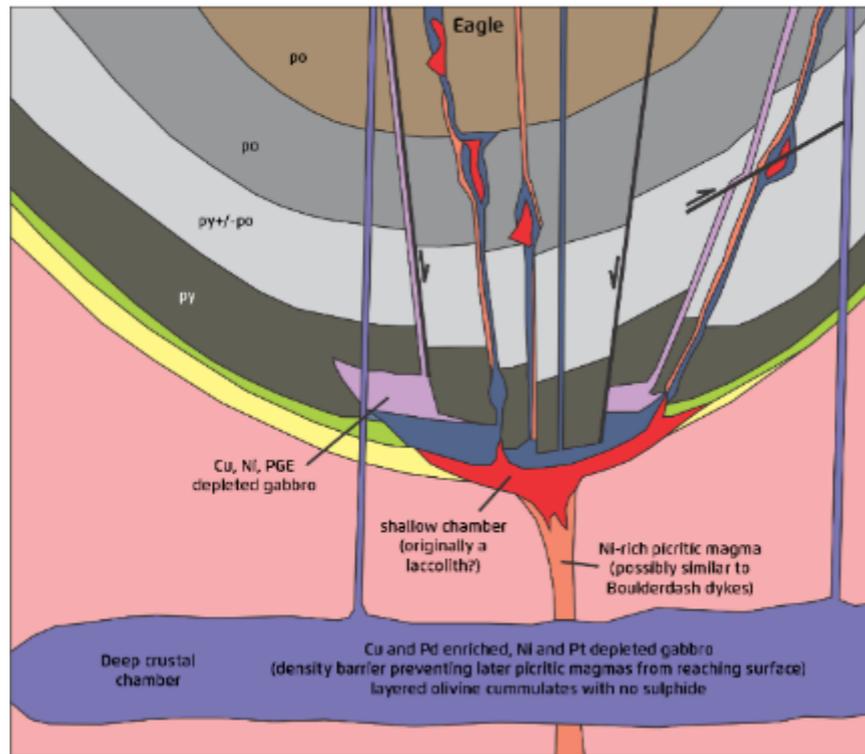


3D Seismic Program – comparative application



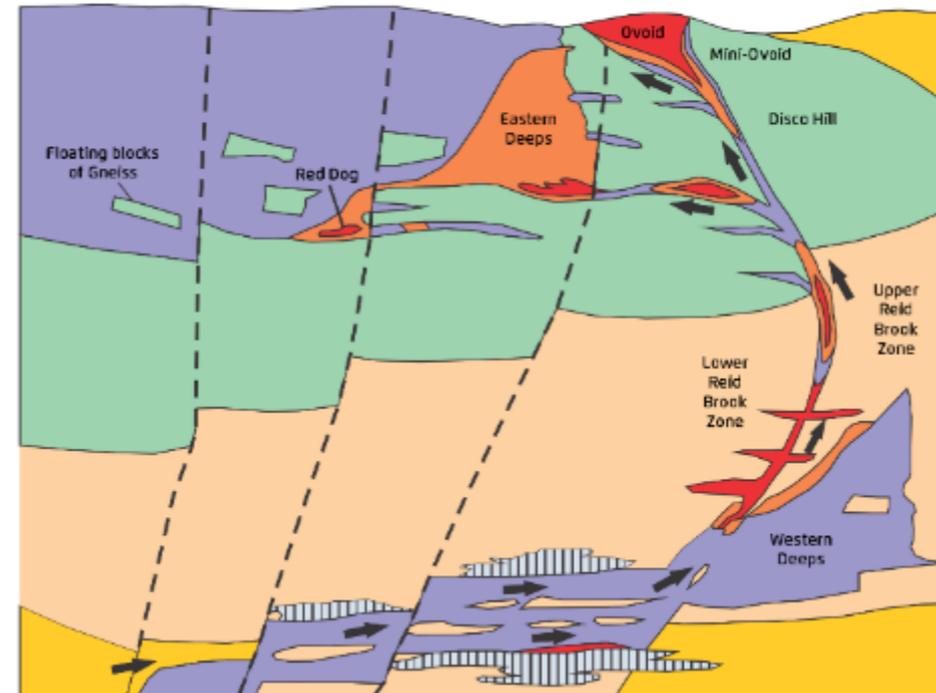
Nickel sulphide systems are usually part of a larger intrusion network

Eagle⁽¹⁾
(view looking east)



Intrusions	Sediments
Gabbro (undepleted)	Upper Fossum
Gabbro (depleted)	Lower Fossum slate
Ferropicrite	Upper graywacke
Silicates + Sulphide	Lower slate
Massive Sulphide	Chert-Carbonate
	Quartzite
	Archean basement

Voisey's Bay⁽²⁾
(view looking west)



Legend
Troctolite Olivine Gabbro
Massive Sulphide & Breccia Assemblage Sulphides
Variable Troctolite with Sulphide
Churchill Enderbitic Orthogneiss
Sulphidic Paragneiss
Tasivjak Gneiss
Nain Orthogneiss
Faults with direction of displacement

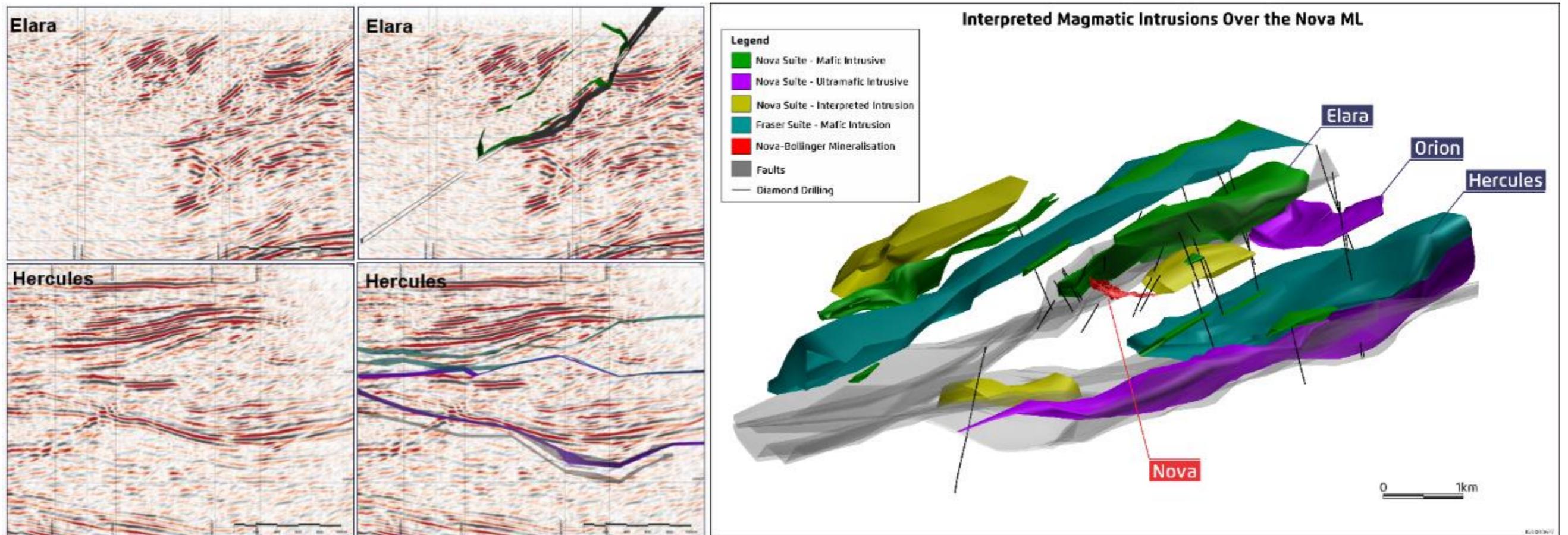
1) Source: Lundin Mining Corp. Technical Report on the Eagle Mine, dated April 26, 2017, Figure 8-2
2) Source: Lightfoot et al. 2015

3D Seismic Program

The 3D model is revealing the location of fertile intrusions



Every hole drilled since February 2019 has hit a fertile mafic-ultramafic intrusion where predicted



Nova Near Mine Exploration



Fertile and live mafic-ultramafic intrusions identified

Elara (6km from Nova)

- A ~5km x 2km x 500m thick M-UM intrusion comprising rocks types similar to Nova Upper Intrusion
- Contains thin zones of semi-massive to disseminated polyphase magmatic sulphides throughout (*Photos A-C*)

Hercules (5km from Nova)

- A deep, ~4km x 3km x 1,000m thick M-UM intrusion comprising rocks types similar to Nova Upper Intrusion
- Hosts disseminated, blebby and stringer 3-phase sulphides (*Photos D-F*)

Orion (5km from Nova)

- A 1,400m x 700m x 140m, NW plunging chonolith similar to the Nova host intrusion
- Hosts blebby, vein and disseminated 3-phase sulphides



Fracture-hosted multiphase sulphide in websterite



Blebby sulphides in gabbronorite



Net textured to semi-massive three-phase sulphides



Blebby sulphides in gabbronorite



Semi-massive sulphides displaying loop-textures



3 phase sulphides within harrisitic textured gabbronorite

Nova Near Mine Exploration

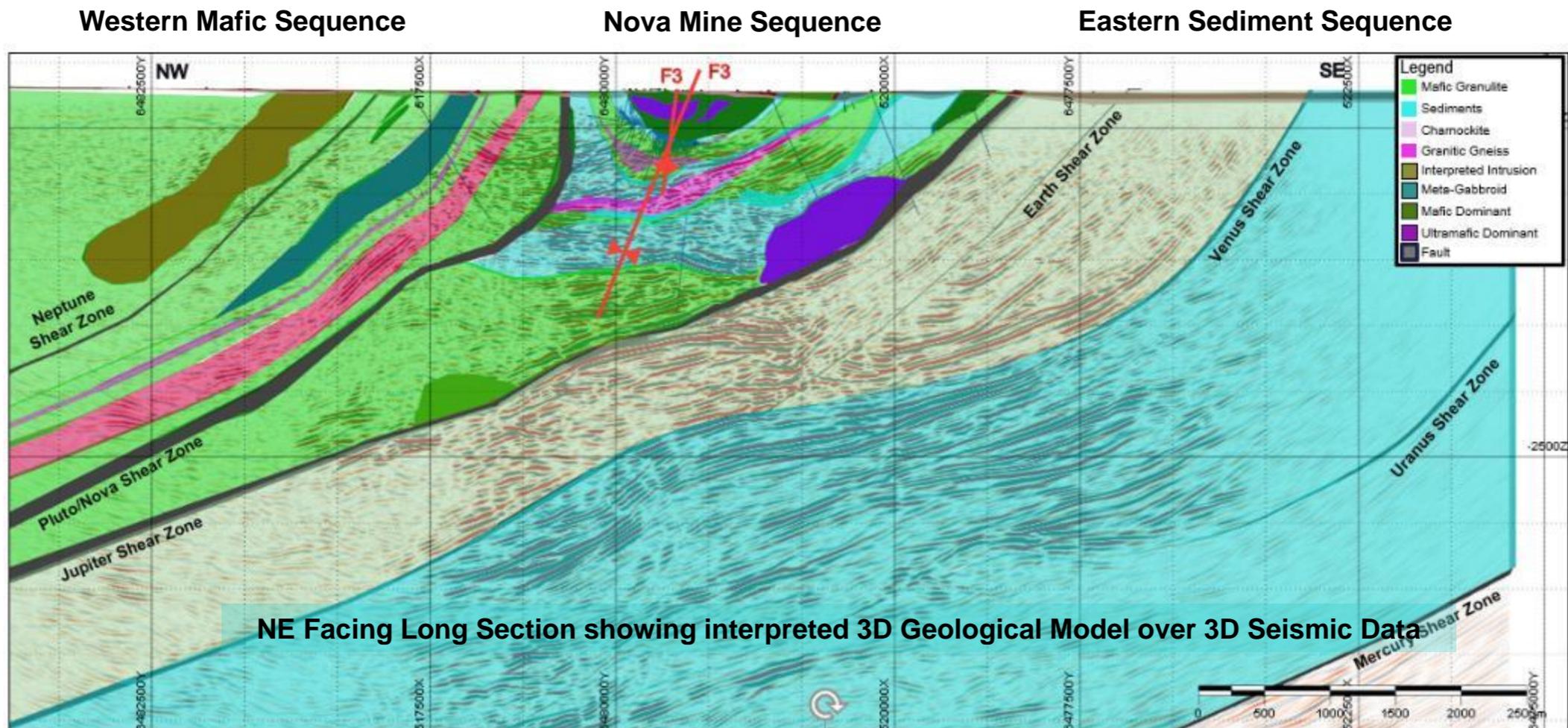


Nova dataset has delivered a controlling architecture used to prioritise targeting

Section combines: 3D seismic, core relogging, structural, geochemical and petrophysical data

Identifies: Intrusive network, structural architecture, testable stratigraphy and targets

Key insights: Folded nature of the intrusive network, establishment of three lithostratigraphic sequences





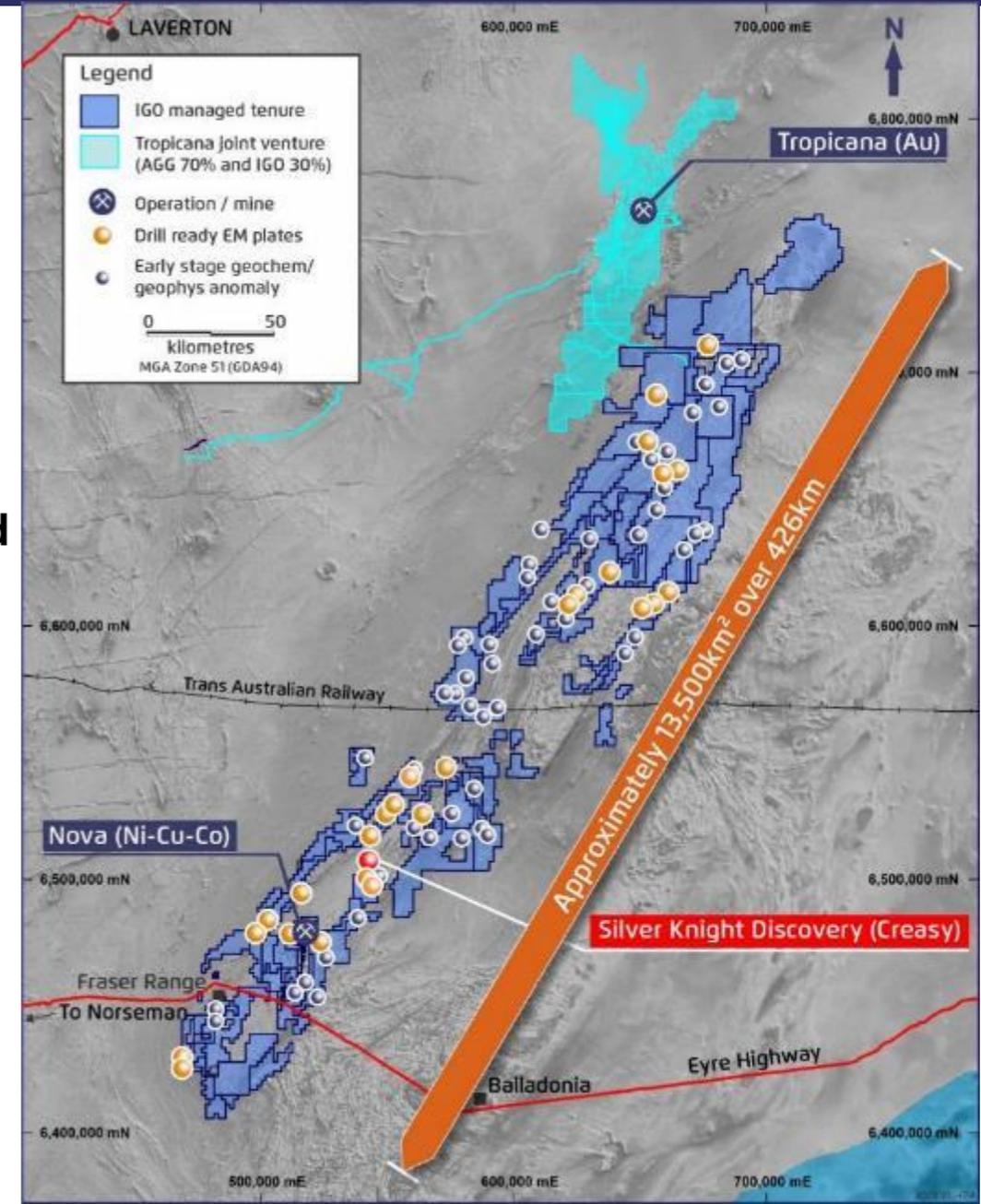
Regional Exploration

FY20 Regional Exploration Program

Focused on belt-scale drilling program



- Systematic and methodical exploration program **focused on finding nickel sulphide mineralisation** operating 12 months of the year
- **Diamond, RC and AC drilling has intersected:**
 - Disseminated Ni-Cu sulphides,
 - Semi-massive Fe sulphides
 - Massive Cu-Zn-Ag-Au sulphides
 - Gold mineralisation
- **Drill targets from anomalies are consistently being generated**
- Aircore drilling **continues to identify new geochemical and geological anomalies** for follow-up
- **Leveraging technology to enhance success**
 - Spectrem AEM dataset will take several months to follow-up with MLEM
 - Four cryogenic SQUID instruments and one fluxgate sensor are testing AEM and AC anomalies

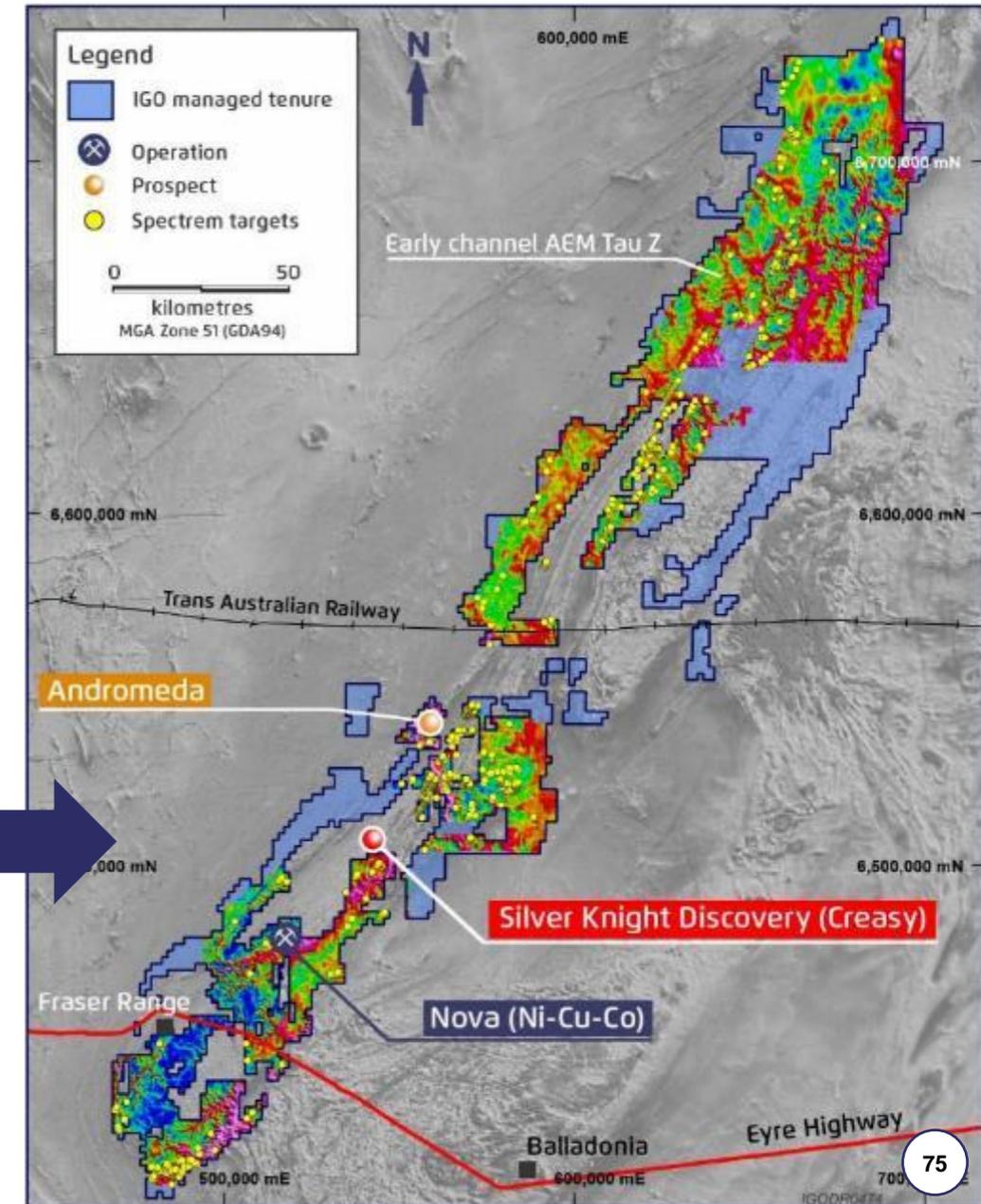
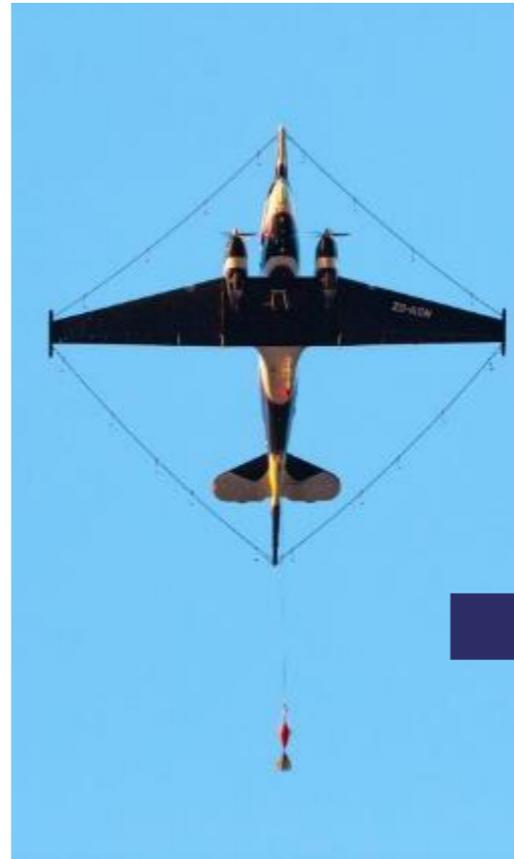


Airborne Electromagnetic Program



Deep penetrating Spectrem Airborne Electromagnetic (AEM) surveying

- SpectremAir engaged for its proven ability to simultaneously provide better depth penetration, detect deeper ore bodies, map shallow cover and being insensitive to IP and SPM effects
- Spectrem proven to detect conductors associated with massive sulphides to >300m where transported cover is thin
- ~80% of IGO-managed tenements covered
- Numerous targets generated by Spectrem are being followed up using ground EM systems
- Spectrem credited with the discovery of Phreaker Cu-Au prospect at Lake Mackay⁽¹⁾



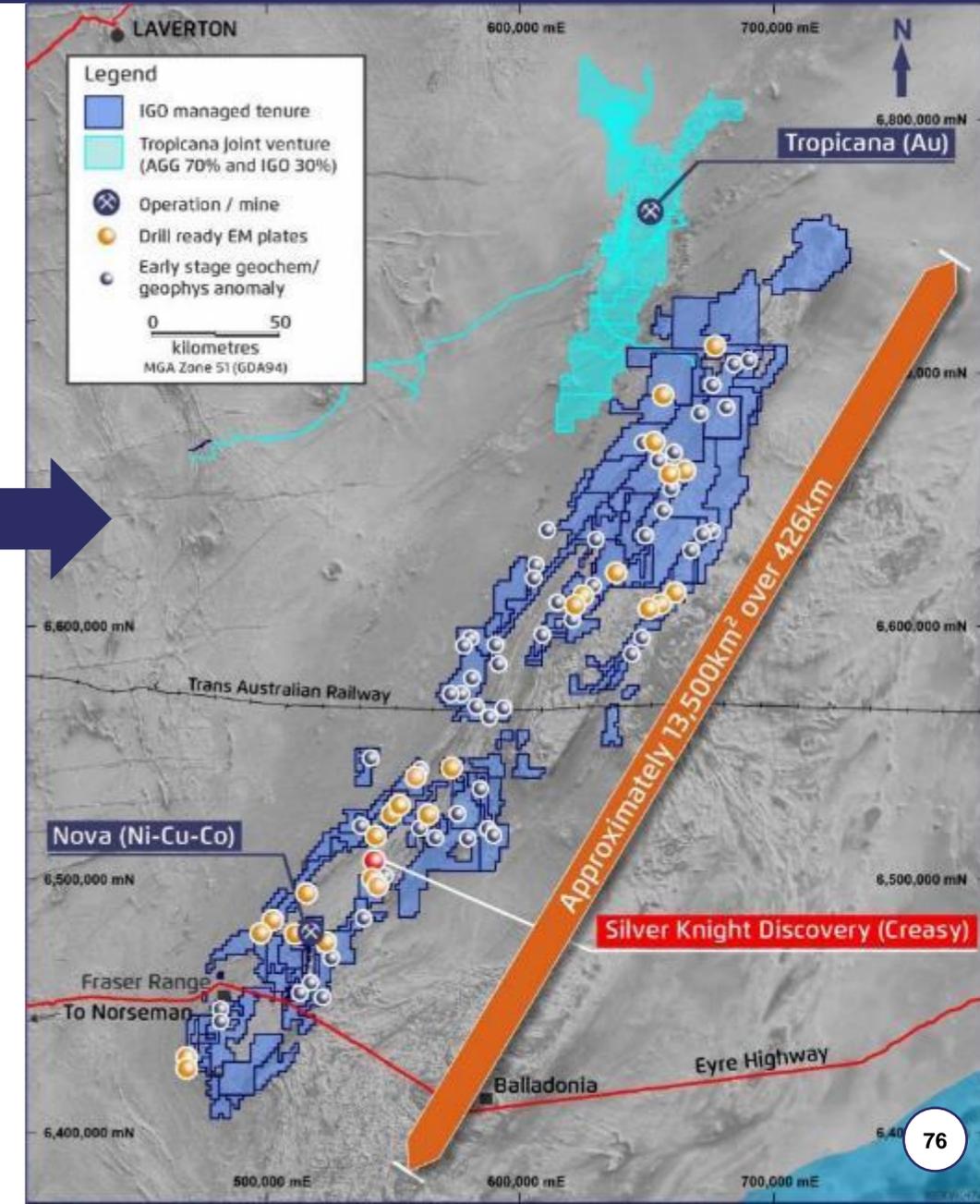
1) IGO's Lake Mackay project is a JV with Prodigy Gold; see ASX release dated 17 July 2019: More Copper and Cobalt intersected at Lake Mackay.

Ground Electromagnetic Program

SQUID Ground MLEM providing drill ready targets



- Four, Super-conducting Quantum Interference Devices (SQUID), are following-up Spectrem and AC targets to test for massive sulphide EM conductors
- SQUIDs can detect conductors up to 1,200m in some areas
- Particularly useful identifying anomalies beneath paleochannels or deep sediments
- Multiple AEM and AC anomalies are converted to EM drill targets monthly

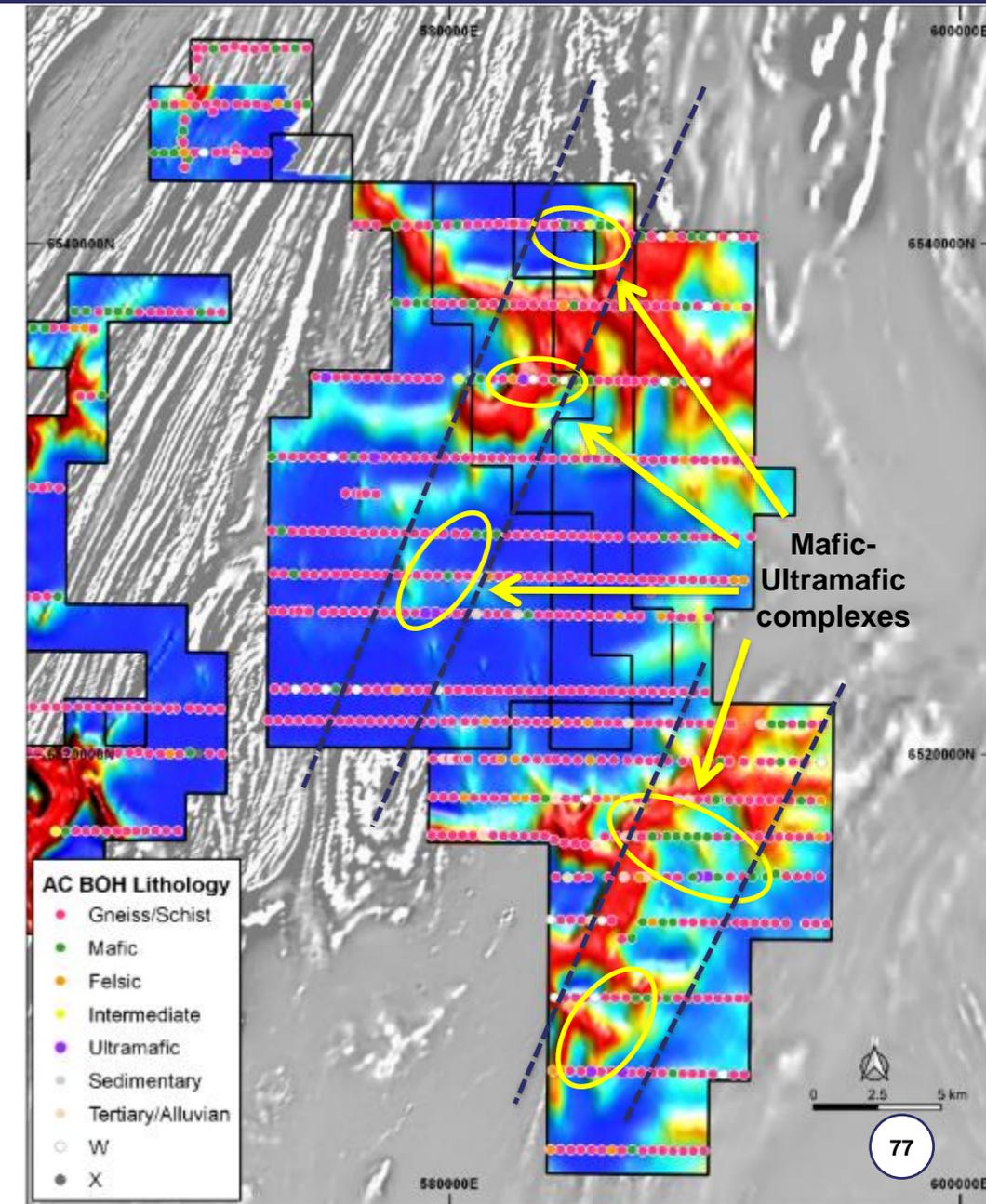


Aircore Drilling Program

Detecting more than just geochemical anomalies



- Aircore drilling (AC) is IGO's workhorse; 165km of AC has been completed since 1 July 2018
- Captures depth to basement, basement geology, and geochemical anomalism
- Identified mafic-ultramafic intrusive complexes and numerous geochemical anomalies, many $>0.1\%$ Ni or Cu⁽¹⁾ are now being followed up with infill drilling
- Two AC rigs operating full-time in FY20



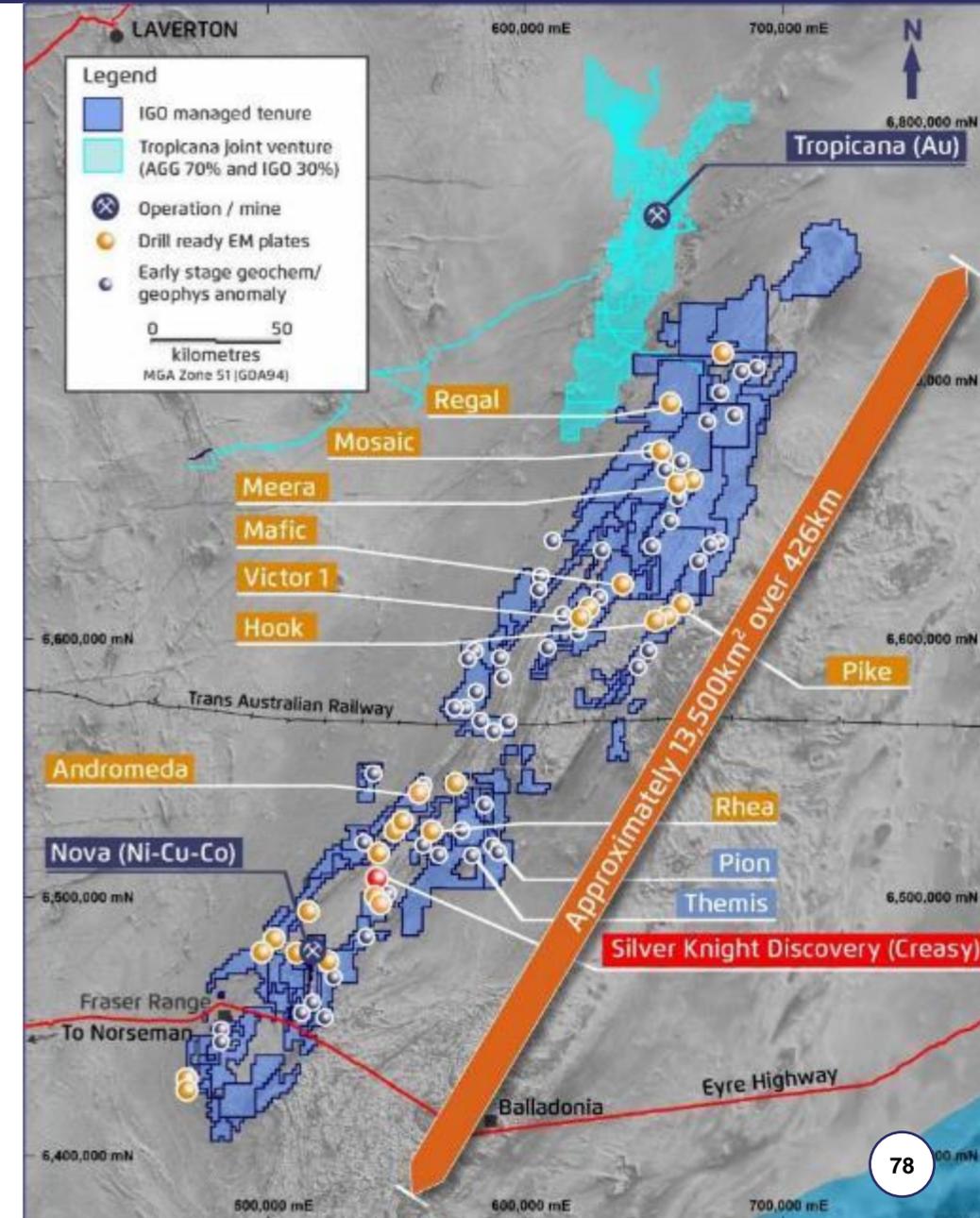
1) For some examples, refer to IGO ASX release dated 20 February 2019: Annual Update of Exploration Results, Mineral Resources and Ore Reserves

RC and Diamond Drilling

Extensive program over the next 12 months



- Two DDH rigs and one RC rig testing EM conductors considered most prospective for nickel sulphides along the belt
- Several targets tested to date, many require follow-up after positive first pass results
- New drill ready EM plates are being generated monthly
- IGO envisage an ongoing drill program testing priority bedrock EM targets for at least the next 12 months

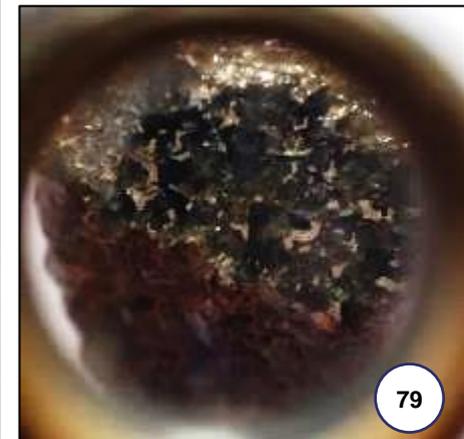


Target Prioritisation



Diamond and RC drilling is prioritising EM conductors thought to be nickel sulphides

- RC drilling is consistently intersecting sulphide mineralisation – **our methods are working!**
- Three prospects identified 2m to 14m zones of norite / gabbronorite hosting disseminated, high tenor, Po-Cpy-Pn sulphides that requires follow up
- Multiple drill holes have intersected stringer to semi-massive sulphides with VMS signatures
- Three DDH drill holes have intersected multiple sulphide-bearing zones ranging from 1.5m to 45m of discontinuous, disseminated to net-textured Po-Py, blebby Po-Cpy, disseminated Po-graphite and semi-massive Po
- RC drilling at Celestial intersected 20m of highly anomalous Zn, Cu, Ag and Au

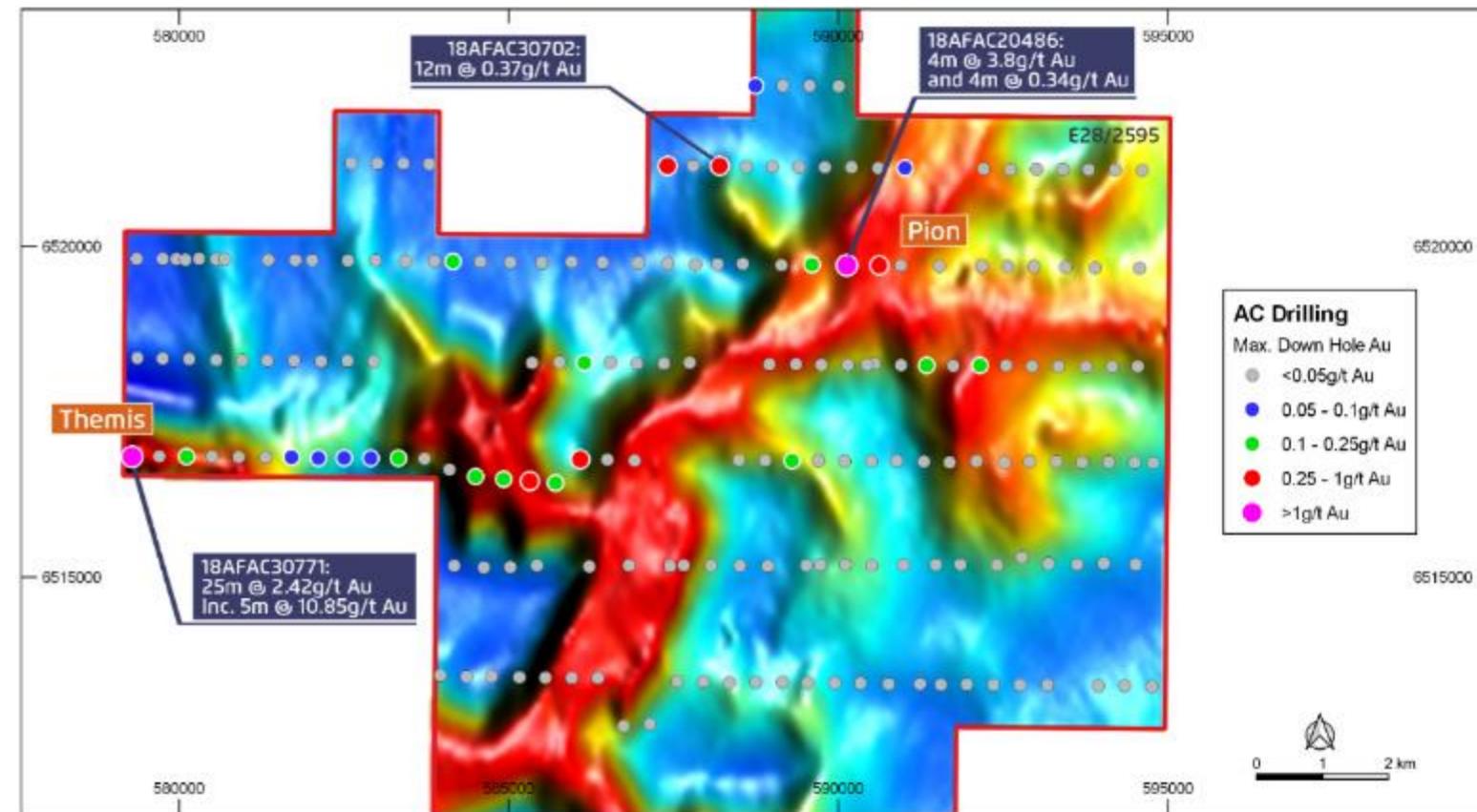


Themis and Pion

Gold discovered through AC drilling⁽¹⁾



- Discovery made as part of air core drilling program
- Gold mineralisation is hosted in the lower part of a poorly consolidated channel fill sequence that is visible in Spectrem data
- Themis: 25m @ 2.42 g/t Au from 42m, including 5m @ 10.85 g/t Au from 49m
- Pion: 4m @ 3.8g/t Au
- Mineralisation persists into the underlying, highly weathered, foliated feldspar-biotite-garnet gneiss at Themis
- Follow up drilling is warranted



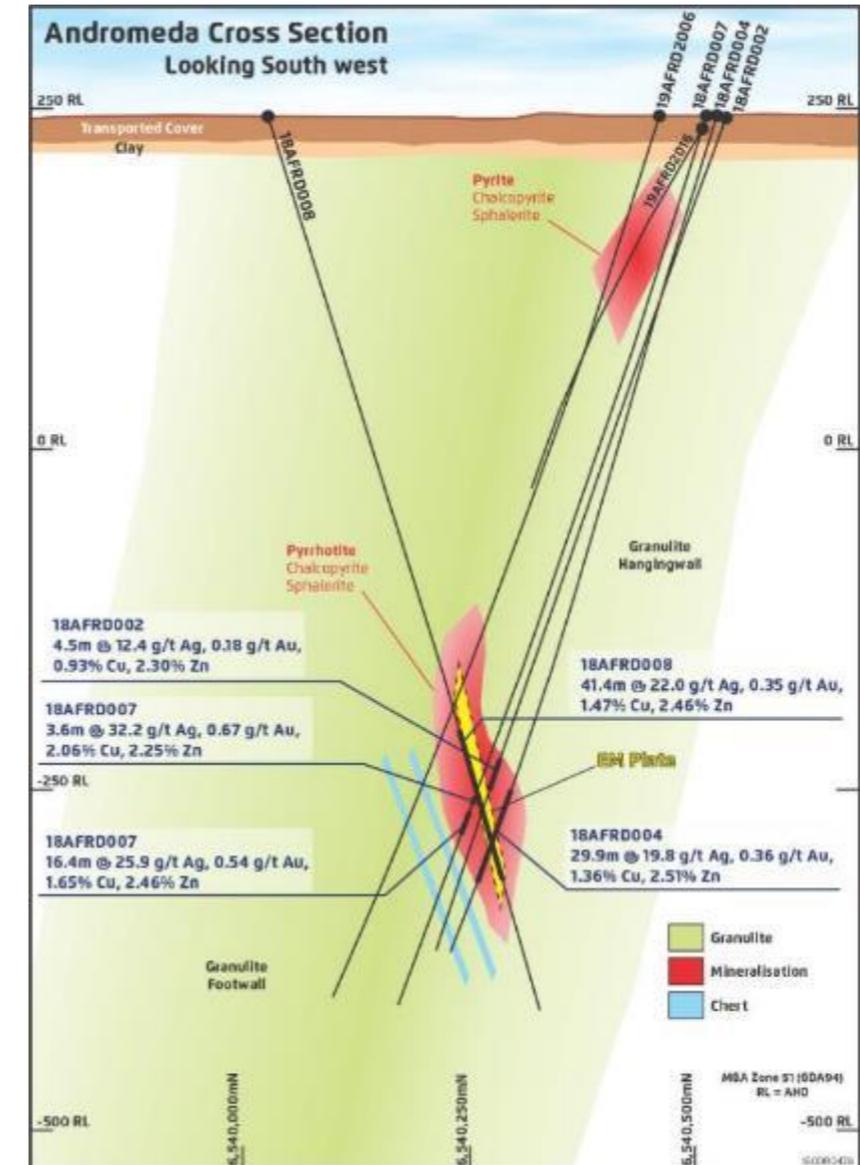
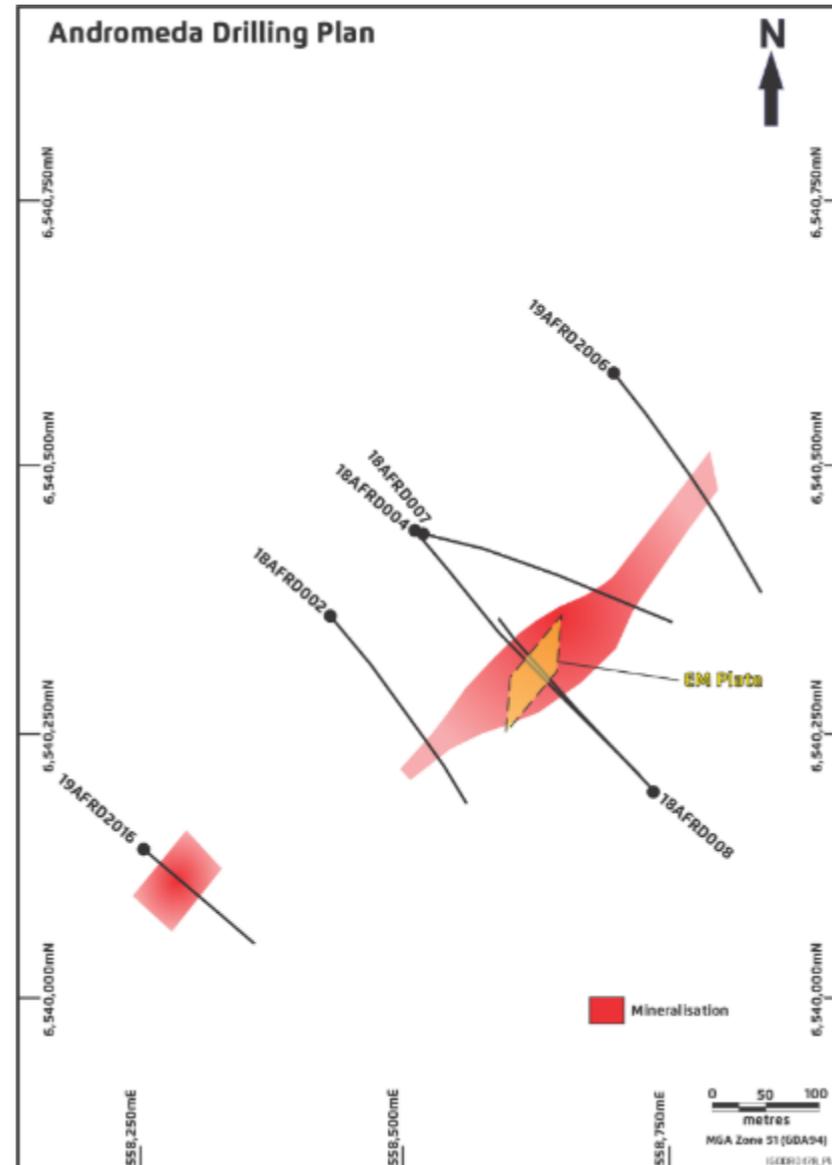
1) Themis and Pion are held in a Joint venture with Rumble Resources Ltd. See Rumble Resources ASX announcement from 1 July 2019

Regional Exploration



Further drilling at Andromeda extends known mineralisation beyond modelled EM conductor

- FY19 drilling at Andromeda extended mineralisation and identified extensions
- Recent RC and DDH drilling intersected zones of 5 to 70% sulphide from ~65m, 250m up dip from previously drilled Cu-Zn sulphides

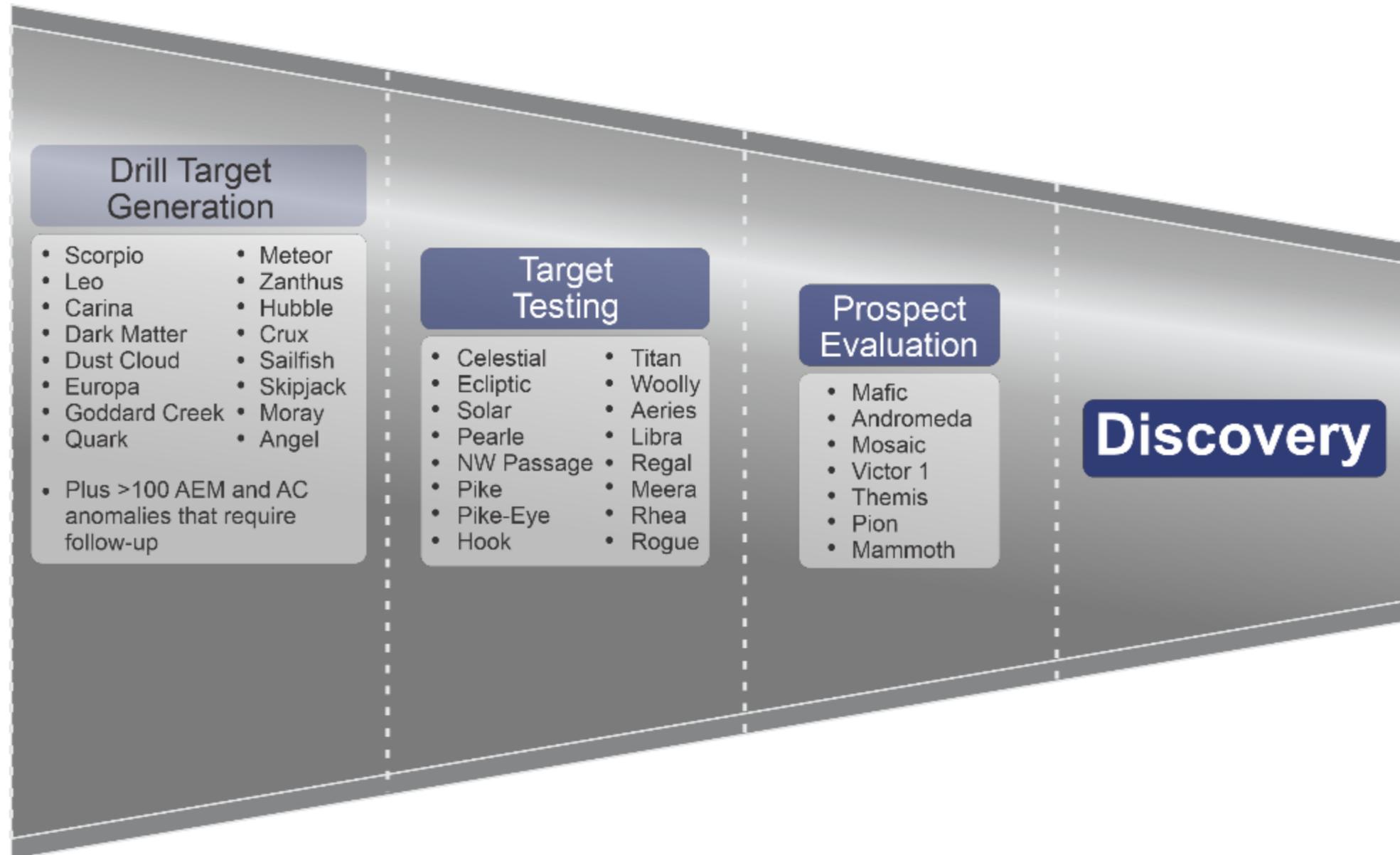


1) Refer ASX Release 26 July 2018 – 2018 Mineral Resources and Ore Reserve Update

Regional Exploration



Multiple targets at various stages ready to follow up or drill

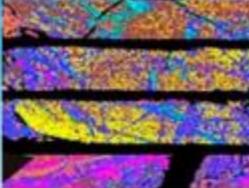


EM



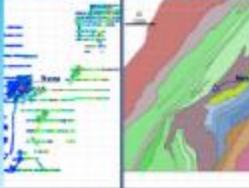
EM (Electromagnetic) technology icon showing an aircraft.

Mineral Innovation



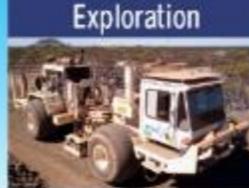
Mineral Innovation technology icon showing colorful geological data.

Applied Geosciences



Applied Geosciences technology icon showing geological maps.

3D Seismic Exploration

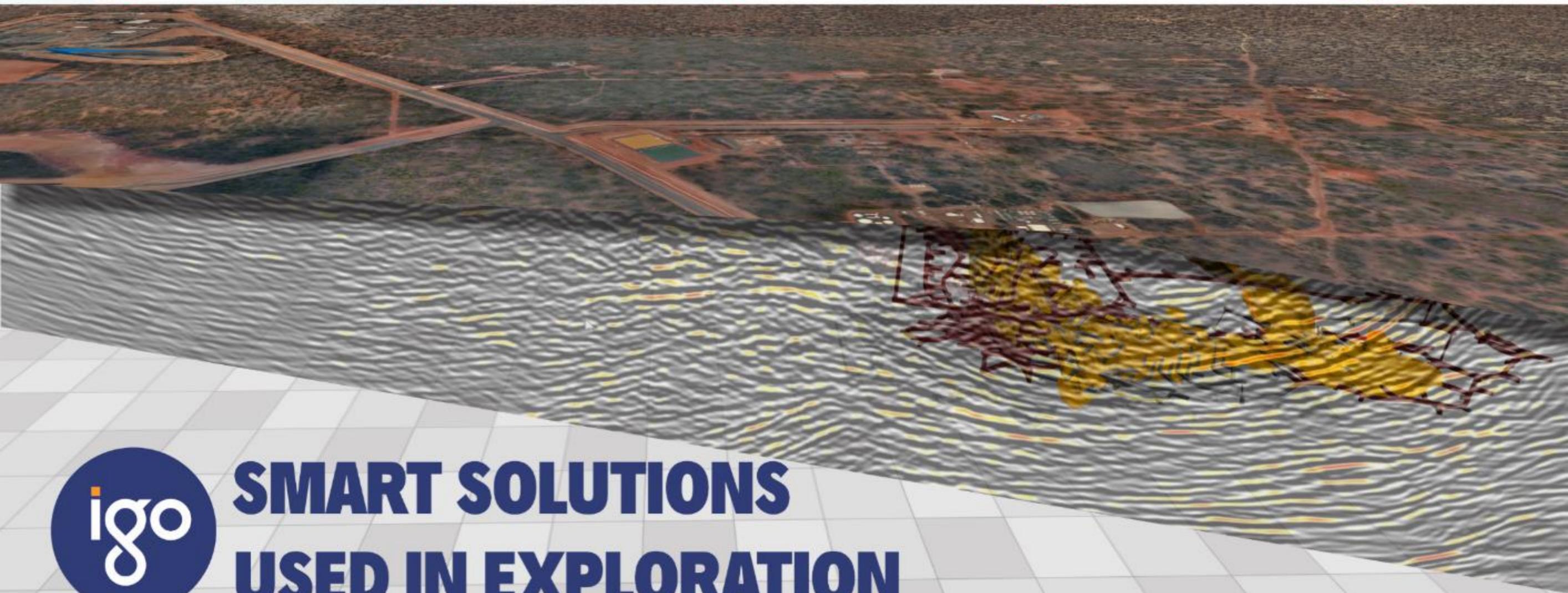


3D Seismic Exploration technology icon showing a truck.

Artificial Intelligence



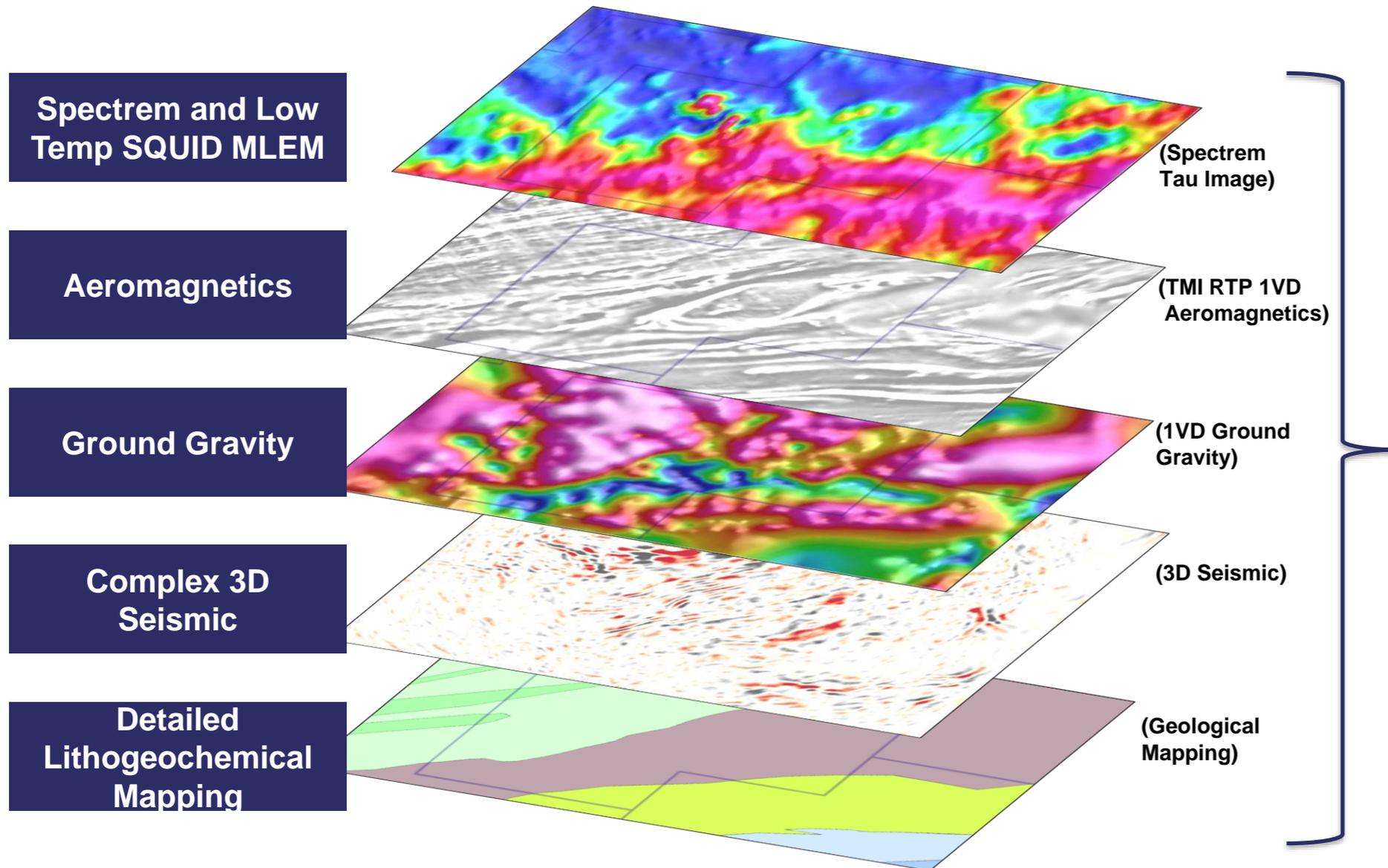
Artificial Intelligence technology icon showing a laptop with gears.



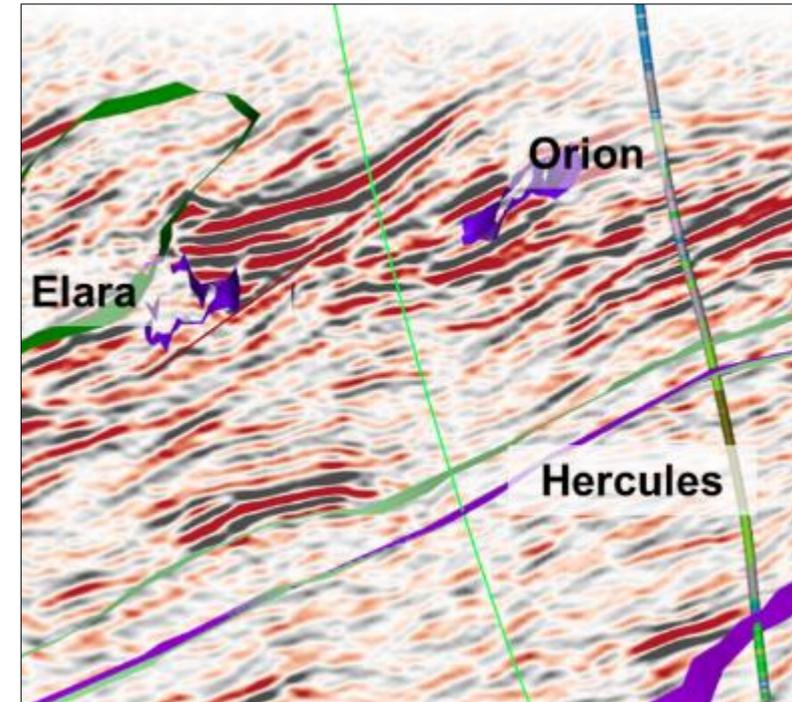
SMART SOLUTIONS USED IN EXPLORATION

Sophisticated targeting

Harnessing the best of available technology to enhance success



Nova Deeps Targeting

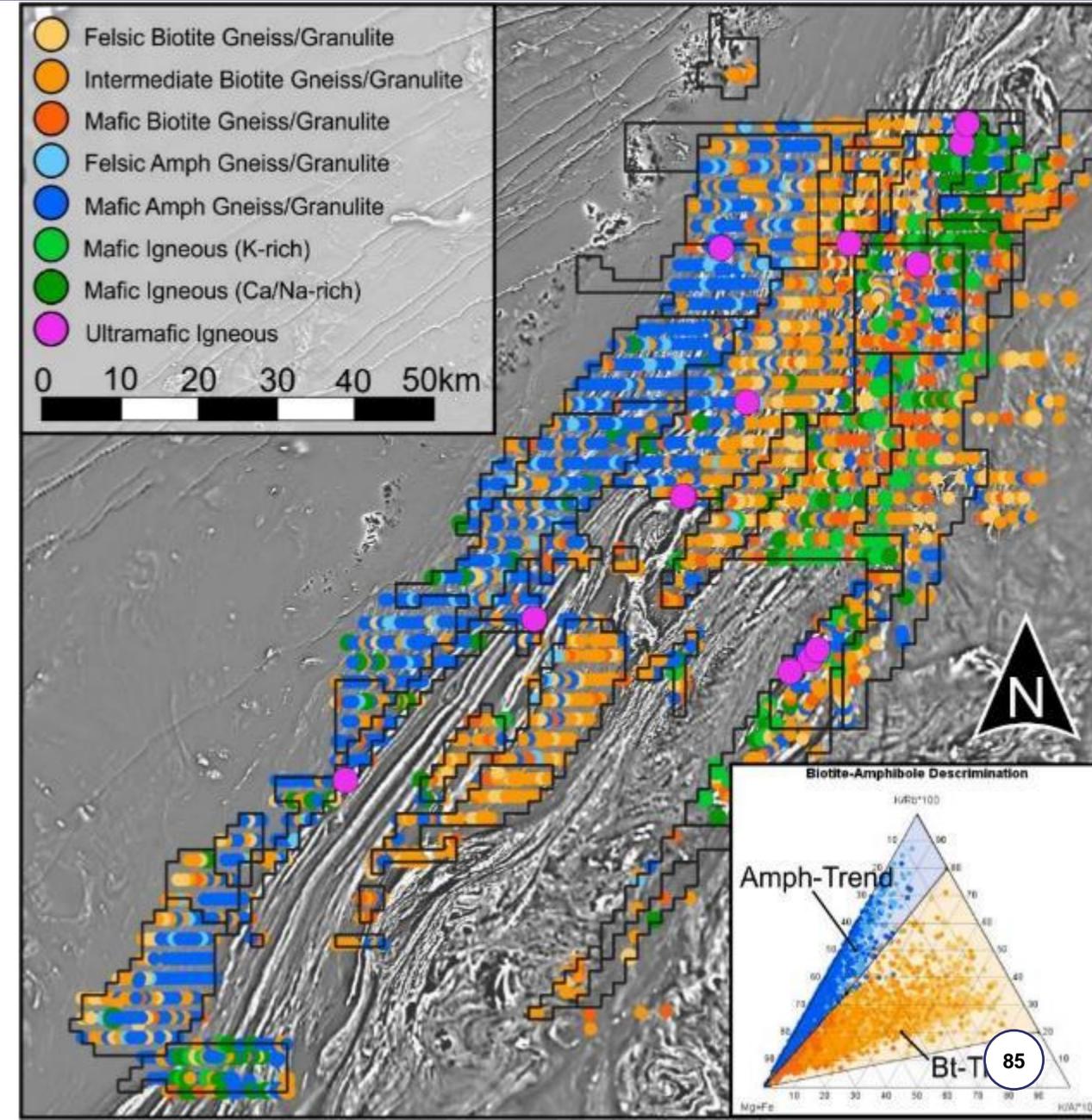


Applied Geosciences

A team of specialists doing special things



- The innovative explorer, places the right people in the right job at the right time
- Belt-scale tenement portfolio promotes a systematic exploration approach
- Treats research like it treats exploration (fail-fast, learn quickly, move on)
- First movers and fast followers:
 - 3D seismic
 - SQUID EM
 - SpectremAir,
 - Long Wave Infra-Red imaging
 - Mineral mapping
 - In-house technical experts



Current and Future EM technology



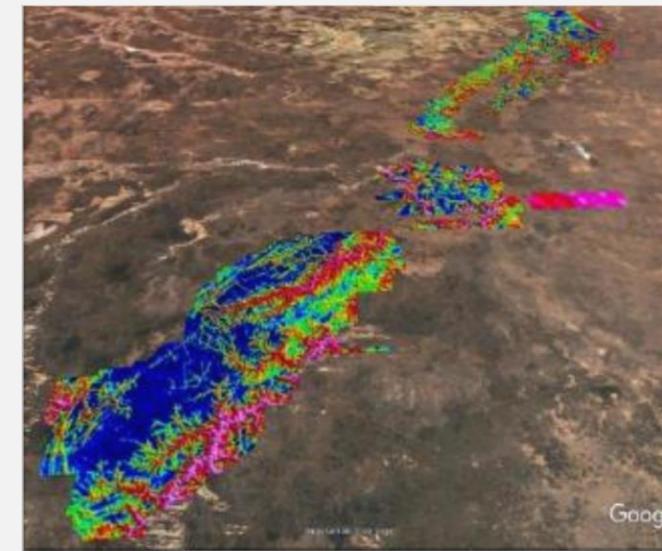
Searching for massive nickel sulphide deposits using the forefront of EM technology

- Tenement wide high resolution airborne EM survey coverage using SPECTREM2000
- Low and High Temperature SQUID sensors used for ground EM surveying
 - Cryogenically cooled super-conductor technology to provide the lowest noise sensor, providing maximum depth of penetration
- Future Developments
 - Developing new generation geophysical EM transmitters
 - Application of DC generators
 - Utilising 100% duty cycle for transmitter waveform
 - Study into new processing methods for DHEM probes

Low-temperature SQUID



Albany Fraser Spectrem coverage



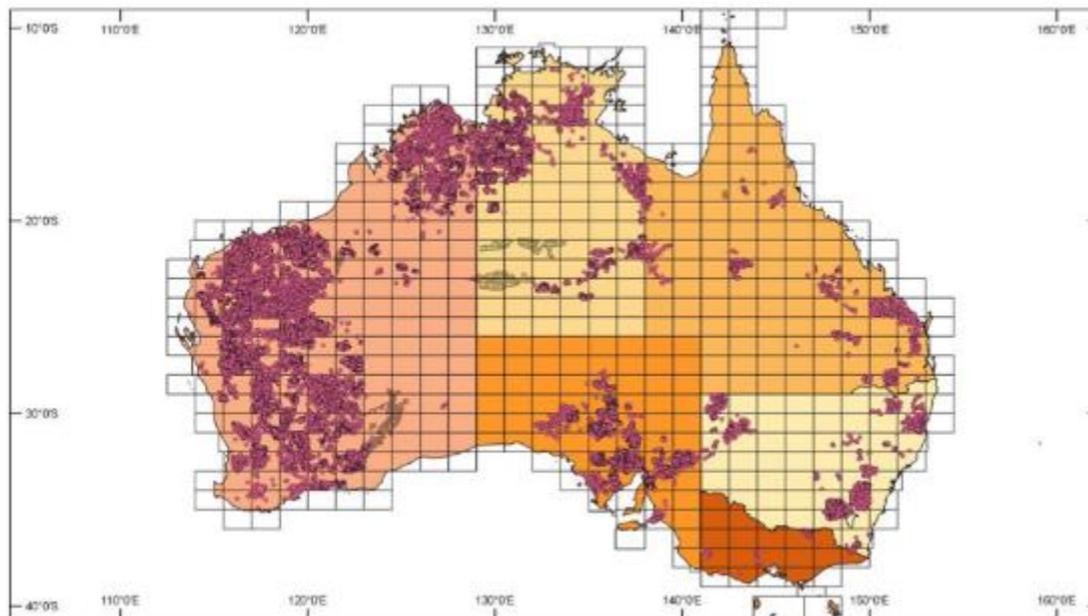
Mineral Innovation

Unique data and knowledge to unlock new projects



- Leveraging new micro analytical techniques combined with classical petrographic techniques
- Cost effective and efficient pathway to new targets
- Moving from bulk analysis to mineral chemistry to map deposit signatures

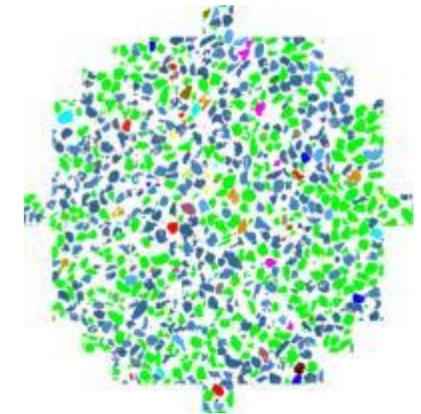
DeBeers Dataset – 830,000 heavy mineral samples



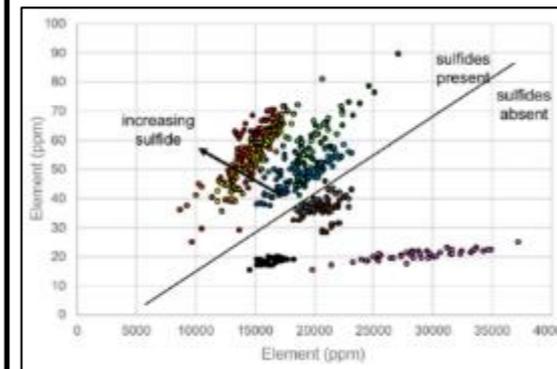
1 Sample



2 Micro XRF Scan



3 Sample



4 Prospectivity

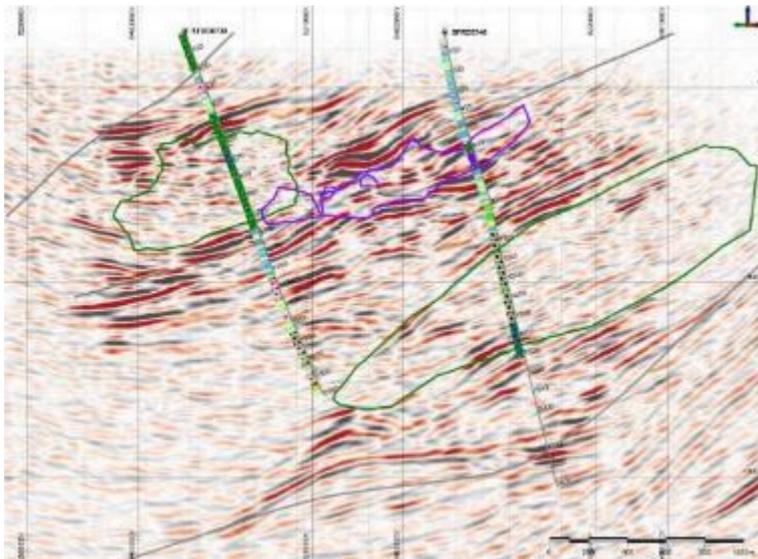


3D seismic and 3D modelling

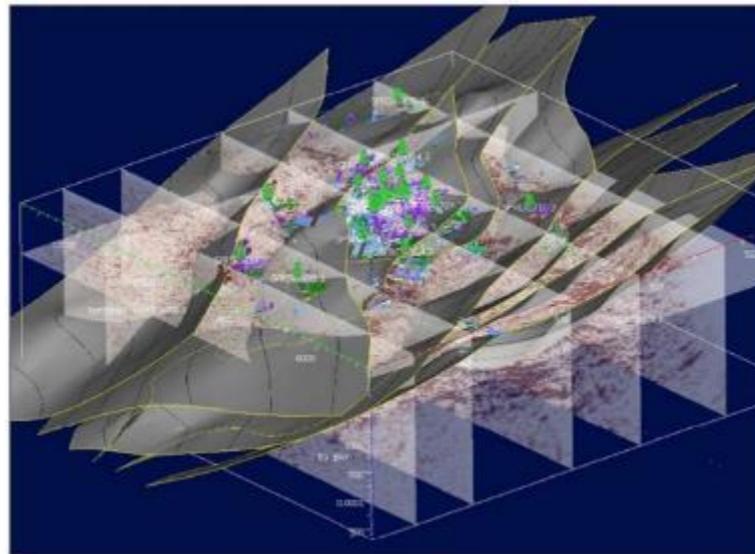
Leveraging 3D data sets to find fertile intrusions

- Using 3D seismic data to generate sophisticated geological models
- Key benefits
 - Efficiently maps out prospective intrusions
 - Enhances understanding of lithostructural architecture and mineralisation controls

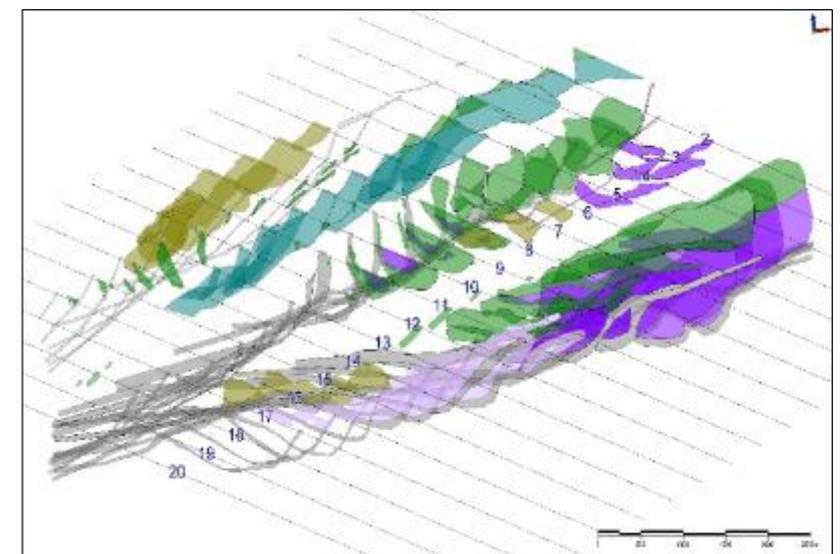
3D Seismic



3D Model



Target interpretation

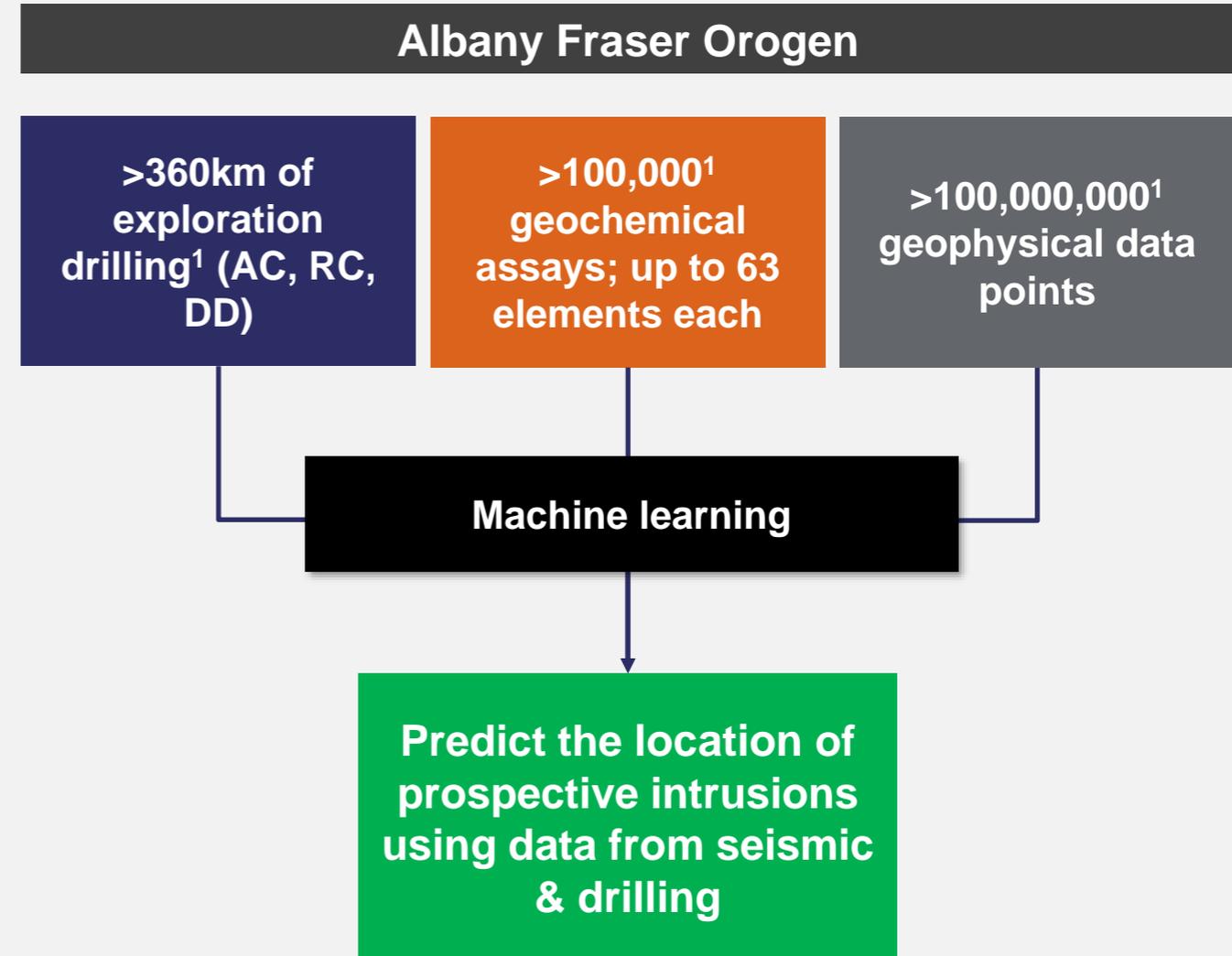


Machine Learning



The “Big Data” problem; maximising value through artificial intelligence

- Huge data sets of geological, geochemical & geophysical data
- Machine learning can identify complex relationships & translate large data sets into knowledge
- IGO developing partnerships with specialised research organisations & building expertise in-house
- To get meaningful answers it is important to ask the right questions



1) IGO collected data and drilling only



Conclusion

Concluding Comments



Delivered metal production exceeding top end of guidance

Focused on operational excellence and improved performance

Disciplined in cost management

Discovery remains key driver for value creation



MAKING A DIFFERENCE

We believe in a world where people power makes amazing things happen. Where technology opens up new horizons and clean energy makes the planet a better place for every generation to come.

We are bold, passionate, fearless and fun – a smarter, kinder, more innovative company. Our work is making fundamental changes to the way communities all over the world grow, prosper and stay sustainable.

Our teams are finding and producing the specialist metals that will make energy storage mobile, efficient and effective enough to make long-term improvements to the lifestyle of hundreds of millions of people across the globe.

How? New battery storage technology is finally unleashing the full potential of renewable energy by allowing power produced from sun, wind and other sources to be stored and used when and where it's needed.

This technology will impact future generations in ways we cannot yet imagine, improving people's quality of life and changing the way we live.

We believe in a green energy future and by delivering the metals needed for new age batteries, we are making it happen.

This is the IGO Difference.

An aerial photograph of a large-scale construction project. The central feature is a massive, circular excavation pit with multiple levels of earthen walls, showing signs of active construction. To the left of the pit, there is a developed area with several large, light-colored industrial buildings, a parking lot filled with vehicles, and various pieces of construction equipment. The surrounding landscape is a mix of cleared earth and dense, green forest. The lighting suggests it is either early morning or late afternoon, with long shadows cast across the site.

Appendix

Appendix 1: Mineral Resources

EOFY18 and EOCY18



Nova Operation – end of FY18 and end of CY18 Mineral Resources

Source	JORC Class	FY18						CY18							
		Mass (Mt)	Nickel		Copper		Cobalt		Mass (Mt)	Nickel		Copper		Cobalt	
			%	kt	%	kt	%	kt		%	kt	%	kt		
Underground	Measured	11.9	2.1	256	0.90	104	0.07	9	12.5	2.1	261	0.8	104	0.07	9
	Indicated	1.1	0.9	10	0.39	4	0.04	0.4	0.6	1.0	6	0.4	2	0.04	0.2
	Inferred	0.1	0.6	0.4	0.2	0.1	0.02	<0.1	0.04	1.9	1	0.7	0.3	0.06	<0.1
	Subtotal	13.0	2.0	266	0.8	109	0.07	9	13.2	2.0	268	0.8	106	0.07	9
Stockpiles	Measured	0.1	1.7	2	0.7	1	0.07	0.1	0.1	2.1	1	0.9	1	0.08	0.1
Total	Measured	12.0	2.1	258	0.87	105	0.07	9	12.6	2.1	263	0.8	104	0.07	9
	Indicated	1.1	0.9	10	0.4	4	0.04	0.4	0.6	1.0	6	0.4	2	0.04	0.2
	Inferred	0.1	0.6	0.4	0.2	0.1	0.02	<0.1	0.04	1.9	1	0.7	0.2	0.06	<0.1
Nova Operation Total		13.1	2.0	268	0.8	109	0.07	9	13.2	2.0	270	0.8	107	0.07	9

- The end of CY18 MRE is reported using a A\$50/t NSR cut-off based on higher metal prices than used for ORE
- Some averages and sums are affected by rounding
- Both MREs are inclusive of OREs and no Inferred Resources are considered excessively extrapolated

Notes

- EOCY18 in situ metal: 270kt of nickel, 107kt copper and 9kt of cobalt
- Majority of MRE (96%) is now in highest confidence Measured Resource JORC Code category
- Annual reporting changed from financial year to calendar year
- Refer: ASX announcement released 20 February 2019 titled Annual Mineral Resource and Ore Reserve Statement

Appendix 2: Ore Reserves

EOFY18 and EOCY18



Nova Operation – end of FY18 and end of CY18 Ore Reserves

Source	JORC Class	FY18							CY18						
		Mass (Mt)	Nickel		Copper		Cobalt		Mass (Mt)	Nickel		Copper		Cobalt	
			%	kt	%	Kt	%	kt		%	kt	%	kt	%	kt
Underground	Proved	10.2	1.93	197	0.79	80	0.07	7	11.3	1.91	215	0.76	86	0.06	7
	Probable	1.3	1.34	18	0.57	8	0.04	1	0.2	1.26	2	0.46	1	0.04	<0.1
	Subtotal	11.6	1.86	215	0.76	88	0.06	7	11.5	1.90	217	0.76	87	0.06	7
Stockpiles	Proved	0.1	2.4	2	1.02	1	0.11	<0.1	0.1	2.11	1	0.86	1	0.08	<0.1
Total	Proved	10.3	1.92	198	0.79	81	0.07	7	11.4	1.91	216	0.76	87	0.06	7
	Probable	1.3	1.34	18	0.57	8	0.04	1	0.2	1.26	2	0.46	1	0.04	<0.1
Nova Operation Total		11.7	1.86	216	0.76	89	0.06	7	11.5	1.90	219	0.76	87	0.06	7

- Both FY18 and CY18 estimates are reported using NSR cut-off grades of A\$27/t for development, A\$63/t incremental stoping and A\$102/t for full stoping costs
- Some averages and sums are affected by rounding
- An immaterial of Inferred Mineral Resources (<5kt) is include in the ORE for reasons of practicality of design

Notes

- Majority of ore reserve, 11.3Mt (98%) is now in highest confidence Proved Ore Reserve JORC category
- 14kt of nickel metal added from MRE update
- 5kt of nickel metal added from design improvement and optimisations
- Mining depletion of 16kt of nickel metal in CY18
- EOCY18 in-situ metal: 219kt of nickel, 87kt of copper and 7kt of cobalt
- Refer: ASX announcement released 20 February 2019 titled Annual Mineral Resource and Ore Reserve Statement