Nova Site Visit

Hosted by Nova and Exploration Teams

4 August 2018

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- 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.
- Any references to IGO Mineral Resource and Ore Reserve estimates should be read in conjunction with IGO’s 2018 Mineral Resource and Ore Reserve announcement dated 26 July 2018 and lodged with the ASX, which is available on the IGO website.
- All currency amounts in Australian Dollars unless otherwise noted.
- Net Debt is outstanding debt less cash balances.
- 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, redundancy and restructuring costs, depreciation and amortisation, and once-off transaction costs.
- Underlying NPAT comprises net profit (loss) after tax adjusted for; post tax effect of acquisition and integration costs, and impairments.
- 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.

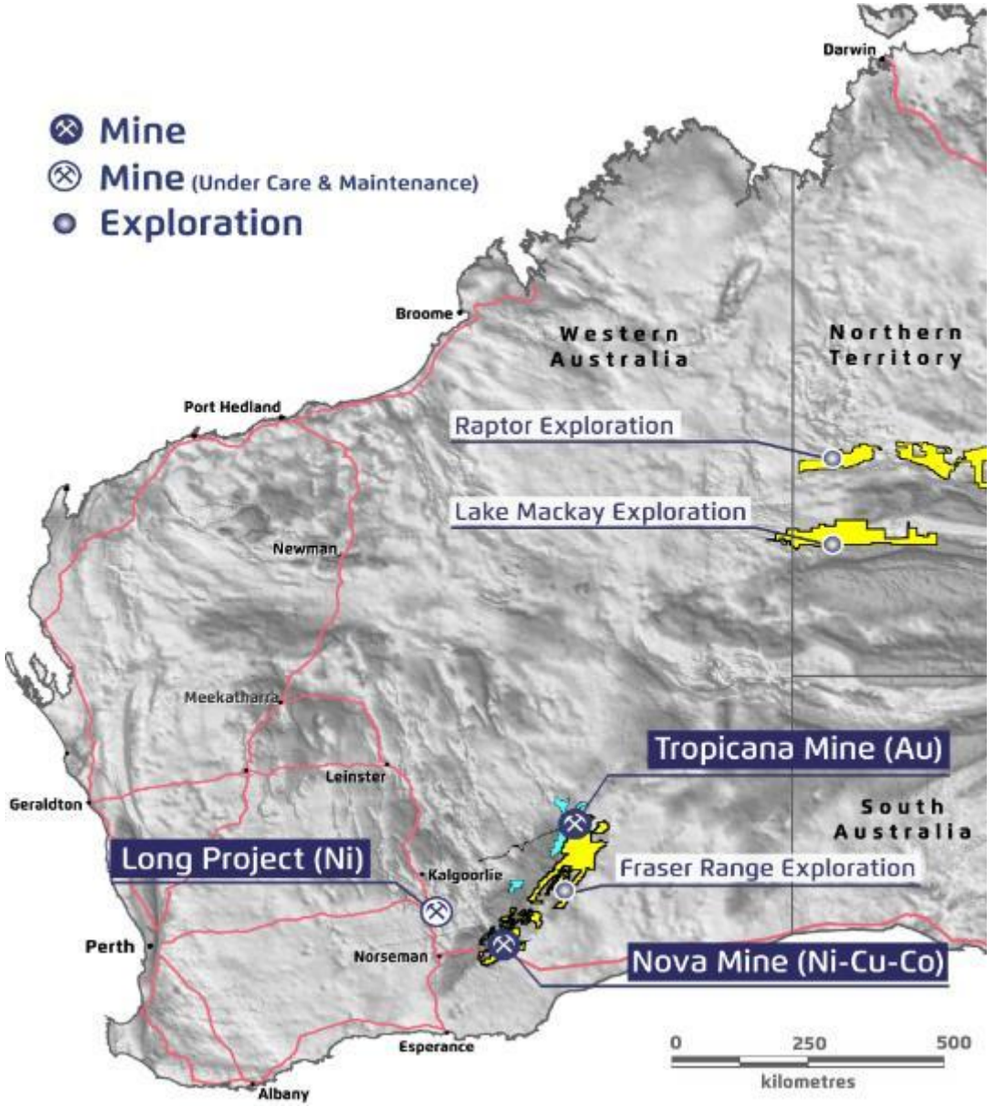
Australia's lowest cost nickel miner

Dominant position in emerging mineral belt

ASX	IGO
Base	Perth, WA
Market Cap(1)	A$2.5 Billion
Cash(2)	A$139M
Debt(2)	A$143M
Dividend Policy	>30% NPAT

Focussed on assets of quality with belt scale potential

- Nova
  - First year of commercial production
  - Tested 20% higher run rate in FY18
- Tropicana
  - Solid year of delivery FY18
  - Mill expansion and Boston Shaker PFS 2Q19
- Growth and Technology
  - Strong commitment to discovery
  - Downstream processing of Nova concentrates



1) At market close 3 August 2018
2) Refer to ASX release dated 27 Jul 2018: IGO June 2018 Quarterly Report

Nova

Our People – Nova

Chris Carr
Nova General Manager

IGO - 19 months

Over 30 years of experience in mining engineering and management. Previously held senior leadership roles at MMG, Glencore/Xstrata, Outokumpu Mining Australia

Nova Operation

Peter Christen
Mining Manager

IGO - 11 months

Mining Engineer with a Master in Applied Finance and Investment and EMBA. 14 years of experience in underground hard rock mining in various management roles. Previously with Newcrest Glencore/Xstrata and BHP.

Aleks Reed
Geology Manager

IGO - 2.5 years

Geologist of 14 years with exposure to gold, base metals, iron ore in technical and supervisory roles. Previous experience with Newmont, Gold Fields, BHP, Northern Star & Xstrata/Glencore.

Matt Spagnolo
Process Manager

IGO - 12 months

Metallurgist with 21 years of experience in various base metal, magnetite and industrial mineral operations across Australia and overseas. Previously with Karara, Lundin Mining, WMC, Pasminco, MIM.

Johannes Whitmore
Commercial Manager

IGO - 13 months

Chartered Accountant with 25 years in the mining industry in various management roles. Previously worked at Anglo American, Iluka Resources, BHP, Norton Goldfields and Norilsk Nickel.

Graham Arvidson
Maintenance Manager

IGO - 3 years

Chartered mechanical engineer (EngAus), chartered professional metallurgy (AusIMM), mineral economist (MSc), MBA. Started mining career in oil sands (Suncor Canada) and has 14 years in the resource industry building projects and leading operational teams sites in Canada, Australia & Africa.

Rhona Wardman
Sr Environmental Advisor

IGO – 3 years

12 years of experience with contaminated sites / risk and liability, with the last 8 years specifically in mining. Previously worked for Birla Nifty and URS / Aecom.

David Wells
Manager -OHS

IGO - 9 months

18 years of experience in Occupational Health and Safety, Medical and 26 years in Mine Rescue & Emergency Response. Previously with Gold Fields, Barrick Gold, Homestake and Plutonic Resources.

Operational Overview

First year of commercial production complete

Discovery
Jul 2012

Construction Start
Jan 2015

Ni & Cu First Offshore Shipment
Jun 2017

GC Drilling Complete
June 2018

2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019

Feasibility Study
Jul 2014

First Concentrate
Oct 2016

Nameplate Throughput
Sep 2017

1.8Mtpa run rate tested
June 2017

Location	350km SE of Kalgoorlie 380km from Esperance
Metals	Nickel, Copper, Cobalt
Mineralisation Style	Chonolith Magmatic Ni – Cu - Co Analogous to Voisey's Bay & Kabanga
Mining	Shallow Underground via decline with Open Stoping with paste backfill and Contract mining

Processing	Conventional crushing, grinding, flotation to produce Ni & Cu concentrate; Co is a by-product of the Ni concentrate Nameplate throughput 1.5Mtpa
Recovery	Design Ni 88% Cu 89% at 1.5Mtpa
Ore Reserves(1)	11.7 Mt at 1.86% Ni, 0.76% Cu, 0.06% Co
Mineral Resources(1)	13.1Mt at 2.0% Ni, 0.8% Cu, 0.07% Co

1) Refer to ASX release dated 26 Jul 2018: 2018 Mineral Resource and Ore Reserve Update

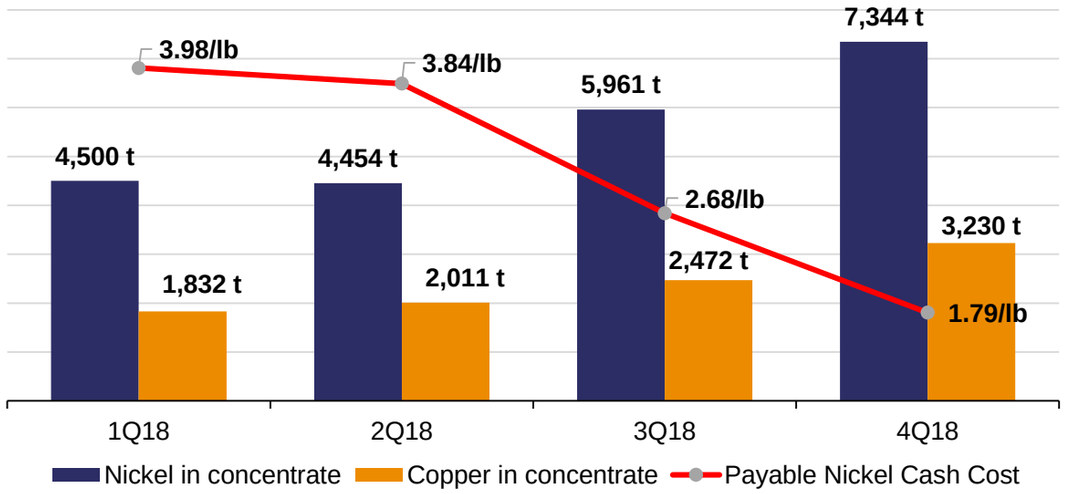
FY18 Scorecard

Strong 2H18 providing momentum for the future

Metric	Units	FY18	FY18 Guidance
Nickel in concentrate	t	22,258	23,000 – 27,000
Copper in concentrate	t	9,545	10,000 – 12,000
Cobalt in concentrate	t	740	800 – 1,050
Cash cost (payable)	A$/lb Ni	2.78	1.90 – 2.50
Development Capex	A$M	53.9	40 – 44
Sustaining Capex	A$M	5.7	9 – 13
Exploration expenditure	A$M	8.8	8 – 10

Nova Financial Summary(1)	1Q18 (A$M)	2Q18 (A$M)	3Q18 (A$M)	4Q18 (A$M)	FY18 (A$M)
Revenue and other income	46.5	78.3	95.9	128.0	348.8
Underlying EBITDA	31.1	28.6	46.8	89.5	196.0
Cash Flow from Operating Activities	18.2	7.5	68.0	53.0	146.7
Underlying Free Cash Flow	9.6	(6.9)	51.8	38.2	92.8

Nova FY18 Production and Payable Cash Costs



FY18 Commentary

- Ramp up weighted to 2H18 as mining at both Nova and Bollinger opened up in terms of number and size of stopes
- Grade Control drilling essentially complete with 1km remaining out of a 264km LOM program
- Mining and Processing was tested at a rate of 1.8Mtpa
- SAG mill liner issue late in June impacted full year production but has now been resolved
- A concentrate shipment delay due to weather prevented a further A$27M of cash flow from further strengthening a strong FY18 contribution

1) Refer to ASX release dated 27 Jul 2018: IGO June 2018 Quarterly Report

FY19 Outlook

De-risked by grade control drilling and demonstrated +1.5Mtpa run rate

Metric	Units	FY19 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$/lb Ni	1.65 – 2.00
Sustaining/Improvement Capex	A$M	21 – 24
Development Capex	A$M	25 – 28

Guidance Notes

- Based on updated Ore Reserves and an improved understanding of the Nova and Bollinger orebodies arising from grade control drilling completed to January 2018
- Improvement capex is expected to address mining and processing plant bottlenecks, including the ability for the above nameplate rate of 1.8Mtpa to be delivered on a continuous basis through:
  - Upgrade RO plant, Paste plant and water recycling
  - Expand underground automation
- Underground capital development brought forward from next 2-3 years and to be substantially completed in the first half of the year
  - Most cost effective way to complete development with capacity and equipment on site
  - Provides greater mining flexibility in the future

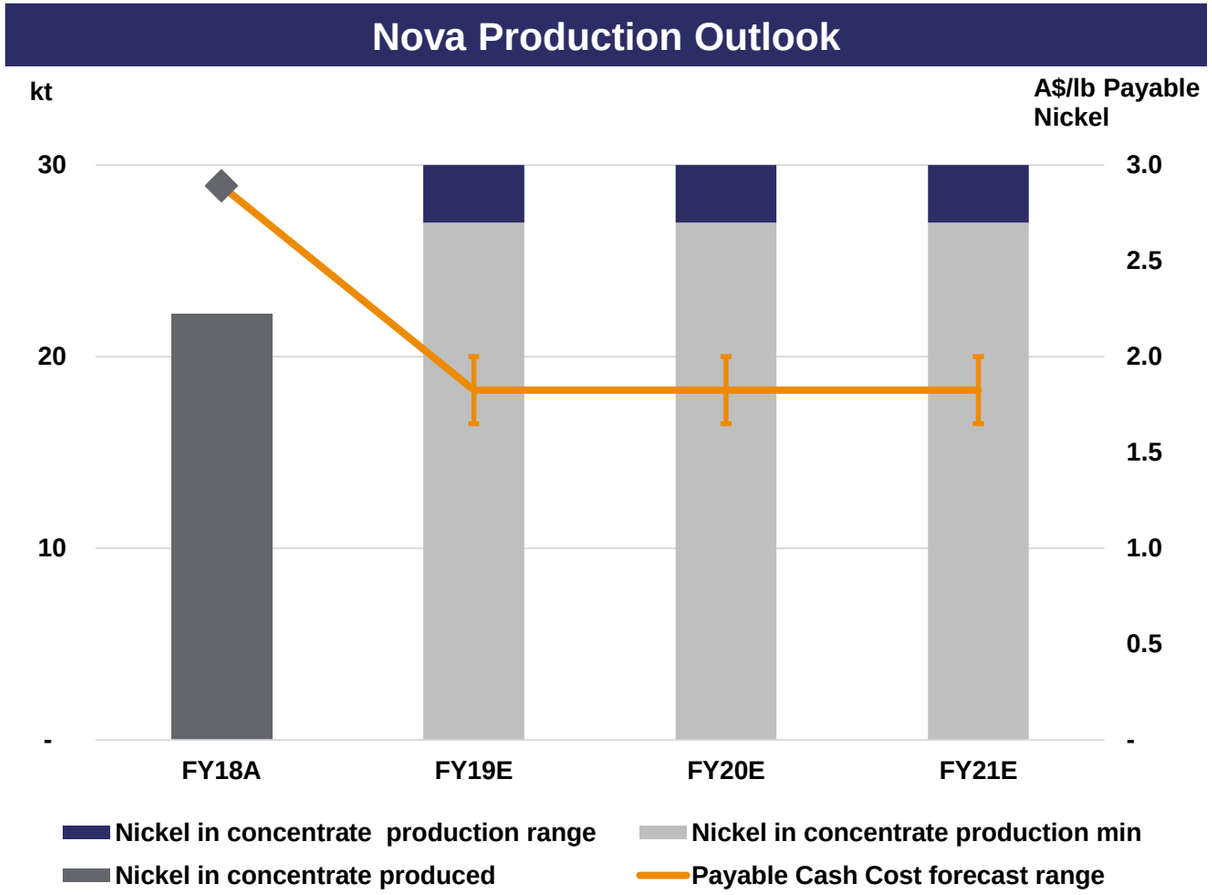
1) Refer to ASX release dated 27 Jul 2018: IGO June 2018 Quarterly Report
2) In arriving at cash cost guidance for FY19, Management has made commodity price assumptions for determining payable metal credits as follows: copper A$4.08/lb and cobalt A$50/lb

Nova 3 Year Outlook

Consistent and higher production for Nova

Outlook Notes

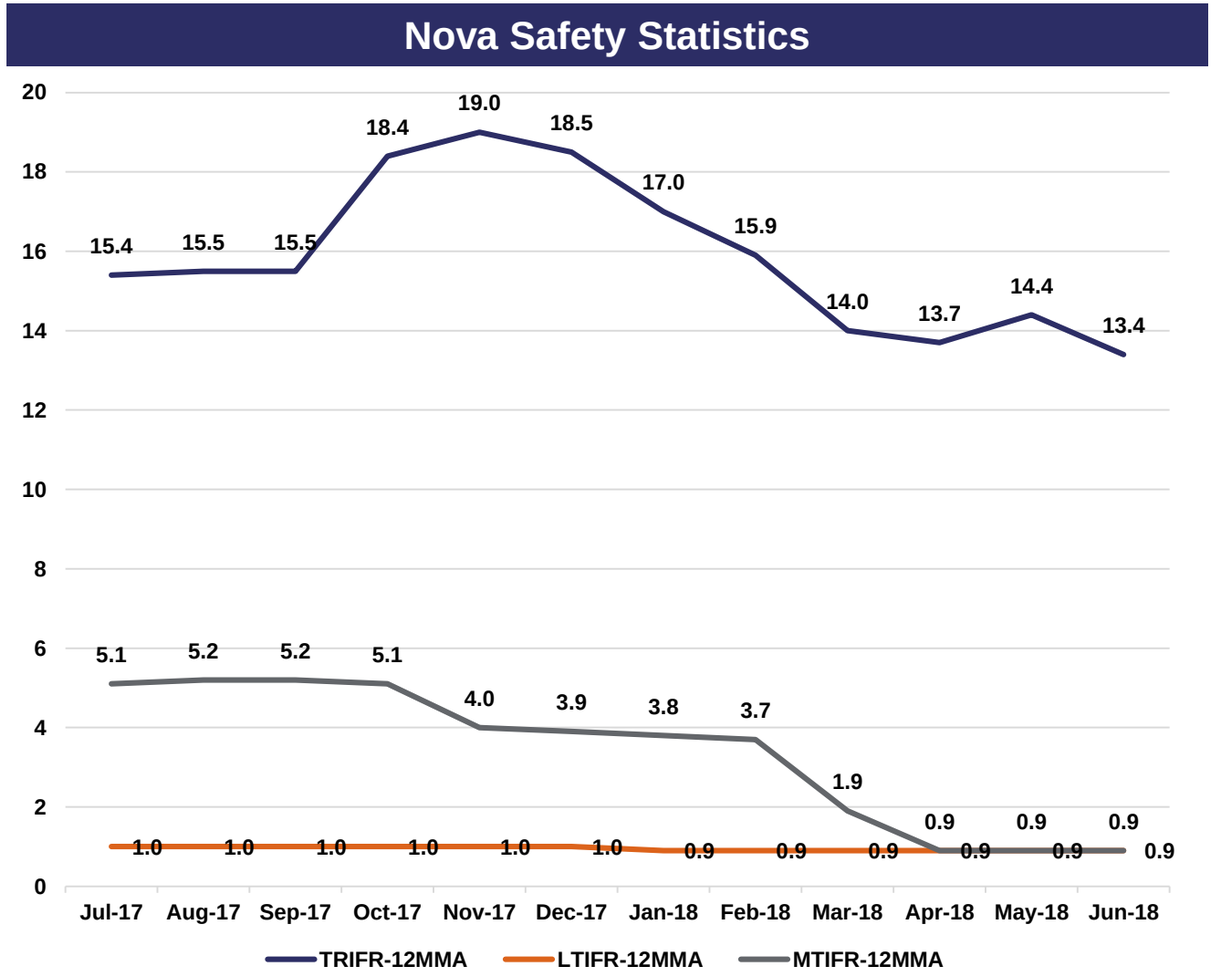
- Assumes:
  - 1.5Mtpa mining and processing rate
  - 89% nickel recovery and 85% copper recovery
- Main driver is higher grade stopes accessed in core of Nova and Bollinger



Nova Safety

Key focus is on the safety of our team

- Driving continuous performance with safety performance
- Shift to leading safety metrics
- Room for continuous improvement
- Key work programs delivered in FY18
  - Visual safety leadership
  - Health and wellbeing of our team programs
  - Emergency service capacity



Mining

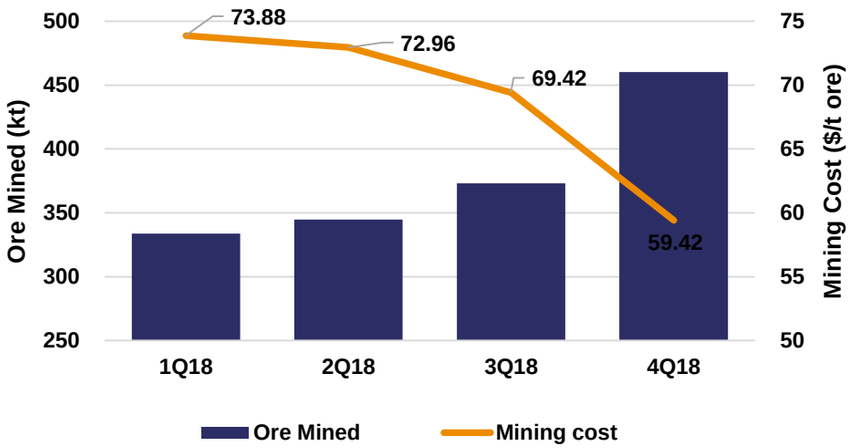
Mining Overview

Flexibility delivered through parallel development of Nova and Bollinger

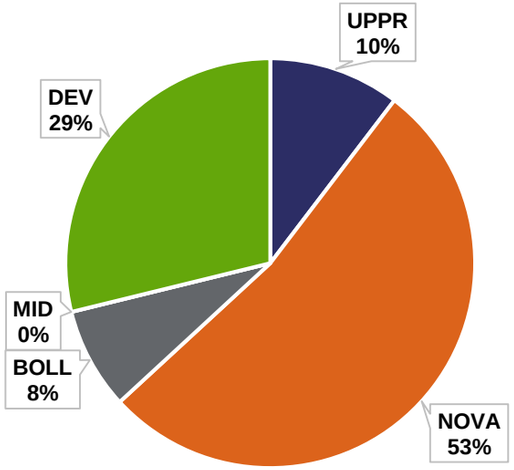
Nameplate mining rate exceeded in FY18

- Excellent mining performance in ramp up year
- Grade control essentially complete
  - 92% of Ore Reserves in Proven Category
- Progressed stoping front to thicker higher grades of the Nova and Bollinger orebodies throughout the year
  - 36 stopes mined during FY18 averaging 26kt each (FY19 – 44 stopes averaging 30kt each)
  - Independent mining areas increased from 3 to 8 providing increased capacity, flexibility and redundancy
- Mining costs materially reduced Quarter on Quarter

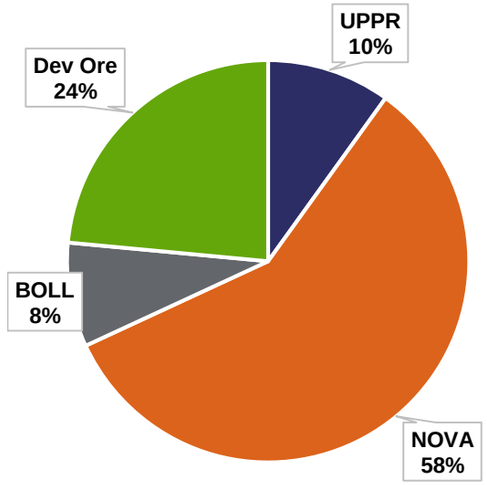
Mining



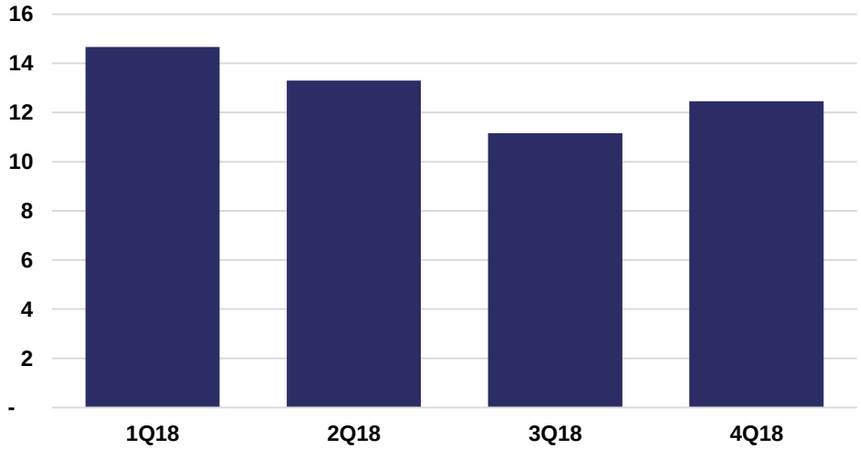
FY18 Ore Tonnes



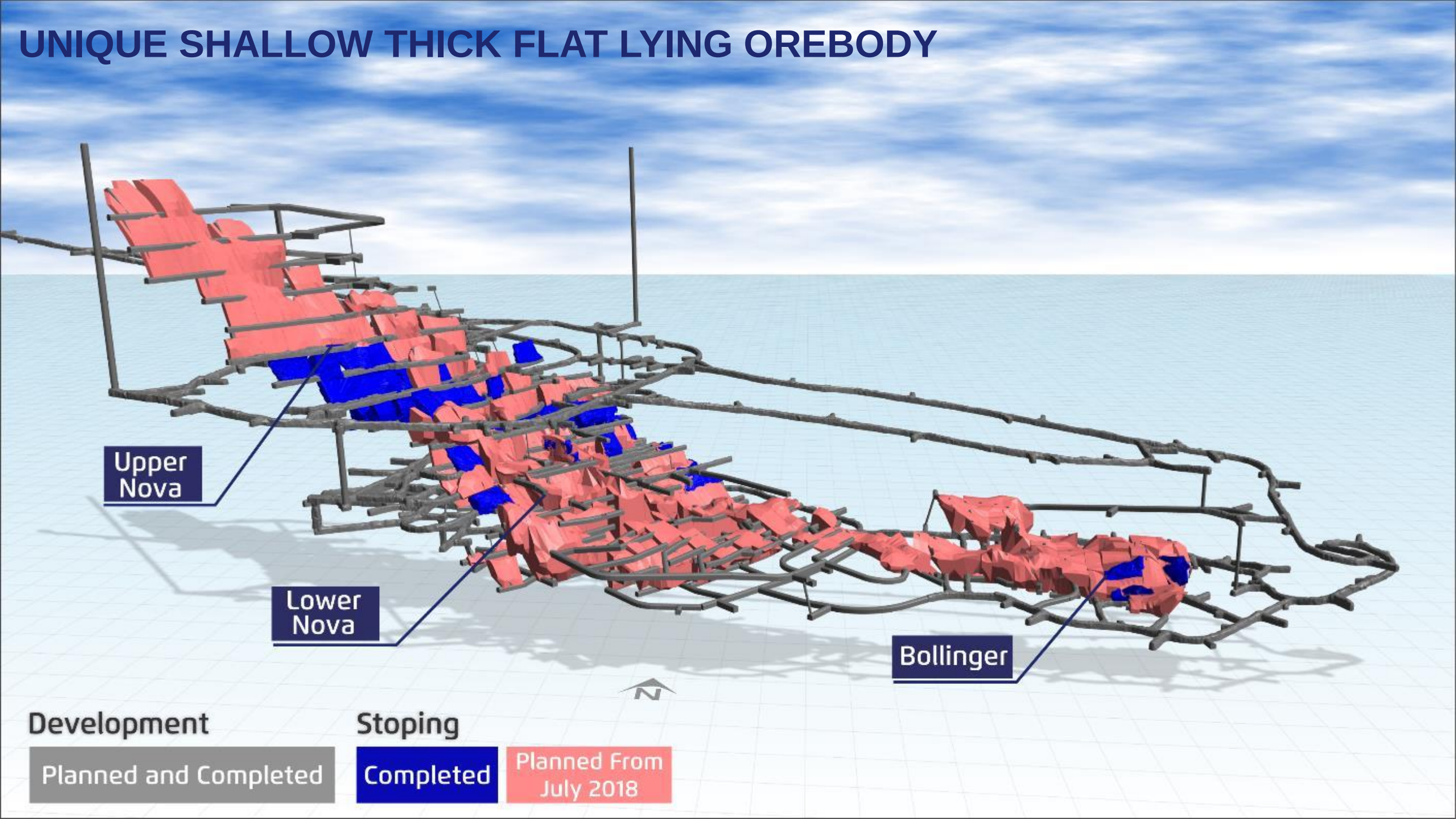
FY18 Nickel Metal



Mine Capital Development (A$M)



UNIQUE SHALLOW THICK FLAT LYING OREBODY

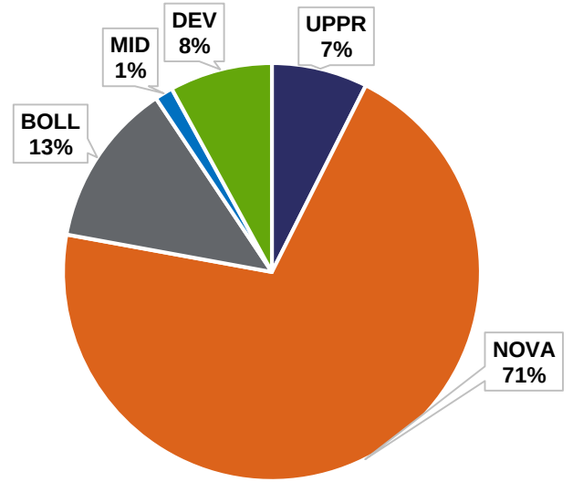


Nova Mining

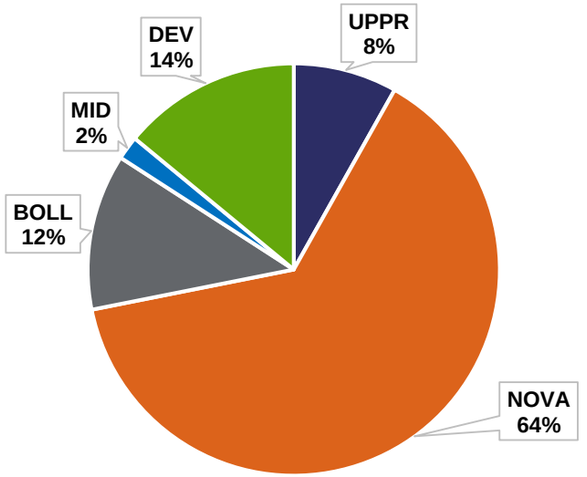
FY19 Focus

- **Completion of grade control underpins high confidence mine plan**
- **Transitioned to the large Nova and Bollinger Ore Stopes**
- **LOM capital development to wind-down from Dec 18**
  - Take advantage of equipment capacity at site
  - Provide additional future mining flexibility
- **Paste plant optimisation**
- **Cost reductions and productivity improvements**
  - Contract negotiations
  - Equipment productivity
  - Stope design
  - Consumables

FY19 Nickel Metal



FY19 Ore Tonnes

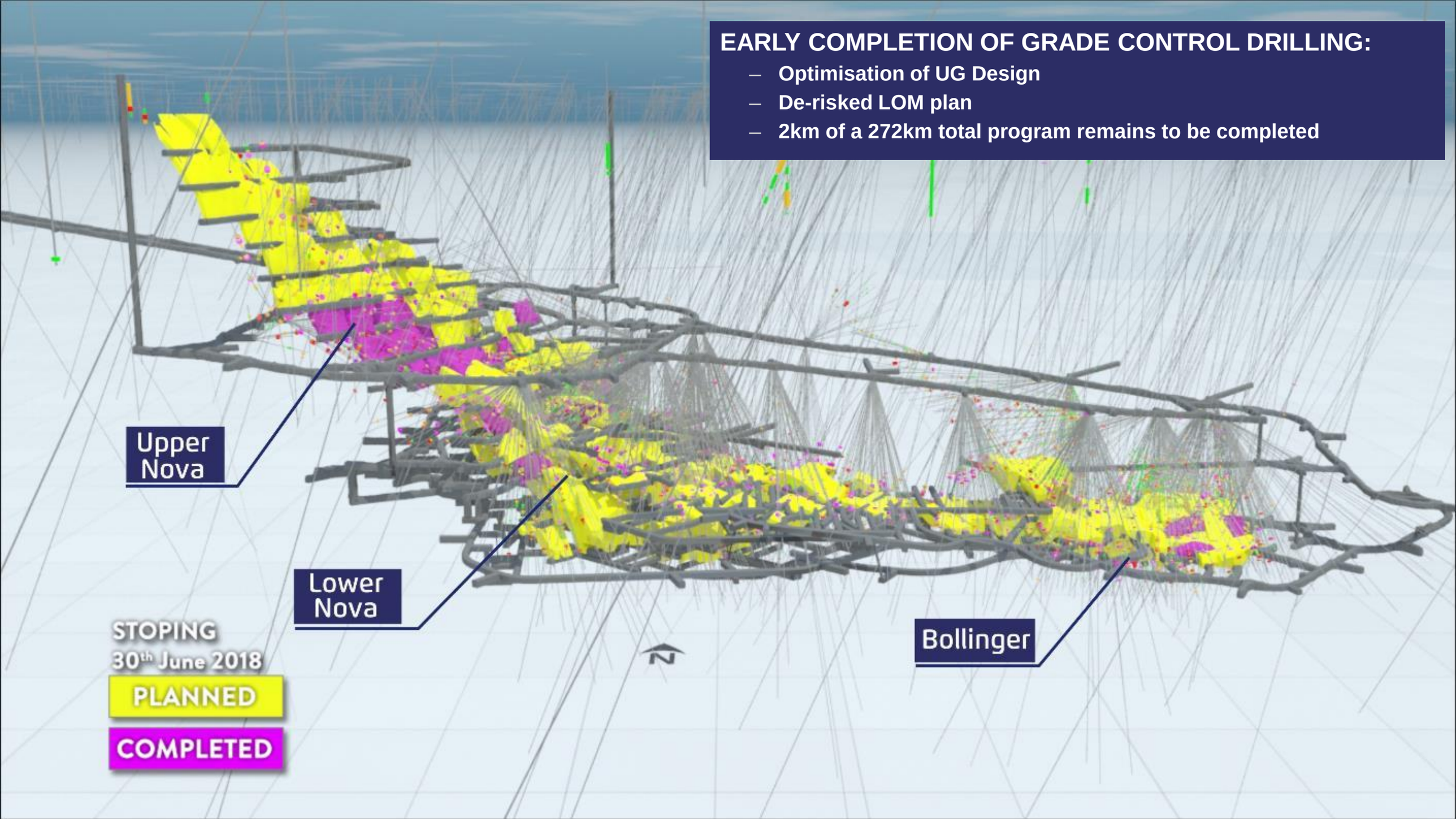


Nova Mining

Driving Technology and Step Change Improvements

- **Drive to make a step change improvement in cost through technology**
- **Stage 1 – Fibre optic backbone in place**
  - Remote bogging from surface
  - Mine control function
  - Ventilation and pump control
  - Proximity sensors throughout mine
  - Digital data capture
- **Stage 2 – Continue transition to automated UG mining**


Resource
Reserves
Reconciliation
Dilution

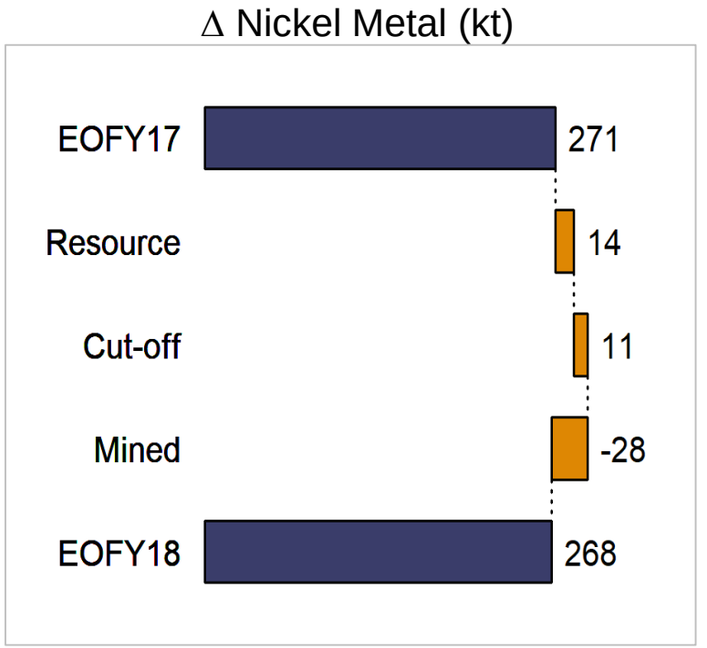

EARLY COMPLETION OF GRADE CONTROL DRILLING:
– Optimisation of UG Design
– De-risked LOM plan
– 2km of a 272km total program remains to be completed
Upper Nova
Lower Nova
Bollinger
STOPING
30th June 2018
PLANNED
COMPLETED

Mineral Resources

EOFY17 and EOFY18

Source	JORC Class	EOFY17 Tonnes (Mt)	EOFY17 Nickel %	EOFY17 Nickel kt	EOFY17 Copper %	EOFY17 Copper kt	EOFY17 Cobalt %	EOFY17 Cobalt kt	EOFY18 Tonnes (Mt)	EOFY18 Nickel %	EOFY18 Nickel kt	EOFY18 Copper %	EOFY18 Copper kt	EOFY18 Cobalt %	EOFY18 Cobalt kt
Underground	Measured	5.2	2.63	137	1.10	57	0.08	4	11.9	2.15	256	0.88	104	0.07	9
	Indicated	4.5	2.50	112	1.02	45	0.09	4	1.1	0.88	10	0.39	4	0.04	0.4
	Inferred	1.7	1.3	22	0.6	10	0.05	1	0.1	0.6	0.4	0.2	0.1	0.02	0.02
	Subtotal	**11.4**	**2.4**	**271**	**1.0**	**113**	**0.08**	**9**	13.0	2.0	266	0.8	109	0.07	9
Stockpiles	Measured	…	…	…	…	…	…	…	0.1	1.66	2	0.68	1	0.07	0.1
Total	Measured	5.2	2.63	137	1.10	57	0.08	4	12.0	2.15	258	0.87	105	0.07	9
	Indicated	4.5	2.50	112	1.02	45	0.09	4	1.1	0.88	10	0.39	4	0.04	0.4
	Inferred	1.7	1.3	22	0.6	10	0.05	1	0.1	0.6	0.4	0.2	0.1	0.02	0.02
Nova Operation Total		**11.4**	**2.4**	**271**	**1.0**	**113**	**0.08**	**9**	13.1	2.0	268	0.8	109	0.07	9

- The EOFY17 MRE was reported using a 0.6% NiEq cut-off grade where NiEq = ({Cu% × 0.89} × {US$6,420/US$16,420}) + Ni%×0.88
- The EOFY18 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
- Mineral Resource estimates are inclusive of Ore Reserve estimates and no Inferred Resources are considered excessively extrapolated



Notes

- EOFY18 in situ metal : 268kt of nickel, 109 kt of metal and 9kt of cobalt
- Majority of MRE (92%) now in highest confidence Measured Resource JORC Code category
- Added 14kt of nickel metal as result of drill out (mainly from Bollinger area)
- Added 11kt of nickel metal as result of change to A$50/t NSR reporting from 0.6% NiEq cut-off
- Mining depletion 28kt of nickel metal in FY18
- Next update 31 December 2018 with drilling completed since January 2018

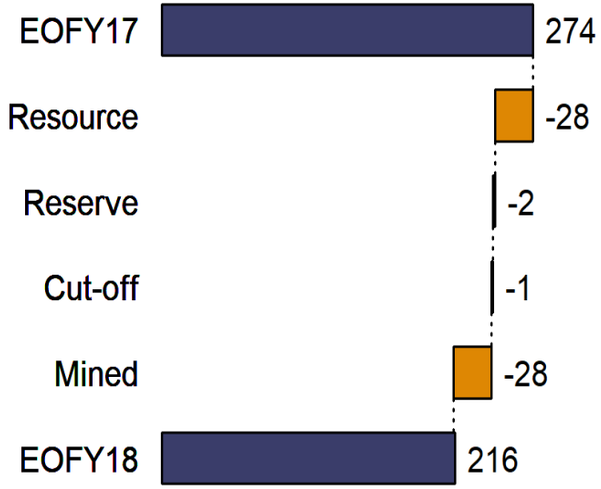
Ore Reserves

EOFY17 and EOFY18

Source	JORC Class	EOFY17 Tonnes (Mt)	EOFY17 Nickel %	EOFY17 Nickel kt	EOFY17 Copper %	EOFY17 Copper kt	EOFY17 Cobalt %	EOFY17 Cobalt kt	EOFY18 Tonnes (Mt)	EOFY18 Nickel %	EOFY18 Nickel kt	EOFY18 Copper %	EOFY18 Copper kt	EOFY18 Cobalt %	EOFY18 Cobalt kt
Underground	Proved	…	…	…	…	…	…	…	10.2	1.93	197	0.79	80	0.07	7
	Probable	13.3	2.06	274	0.83	110	0.07	9	1.3	1.34	18	0.57	8	0.04	1
	Subtotal	**13.3**	**2.06**	**274**	**0.83**	**110**	**0.07**	**9**	11.6	1.86	215	0.76	88	0.07	7
Stockpiles	Proved	…	…	…	…	…	…	…	0.1	1.66	2	0.68	1	0.07	0.1
Total	Proved	…	…	…	…	…	…	…	10.2	1.93	198	0.79	81	0.07	7
	Probable	13.3	2.06	274	0.83	110	0.07	9	1.3	1.34	18	0.57	8	0.04	1
Nova Operation Total		**13.3**	**2.06**	**274**	**0.83**	**110**	**0.07**	**9**	11.7	1.86	216	0.76	89	0.06	7

- EOFY17 ORE reported using NSR cut-off grades of A$30/t for development, A$61 /t incremental stoping and A$92/t for full stoping costs
- EOFY18 ORE 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

Δ Nickel Metal (kt)



Notes:

- Majority of reserve 10.2Mt (87%) now in highest confidence Proved Ore Reserve JORC Code category
- Removed 28kt of nickel metal as EOFY18 estimated based on updated EOFY18 resource not the EOFY16 resource (used for EOFY17)
- Removed 3kt of nickel metal due to small changes in Ore Reserve process and higher costs
- Mining depletion 28kt of nickel metal in FY18
- Lower reserve grade reflects resource grade and dilution (2.0%Ni →1.86%Ni, 0.8%Cu → 0.76%Cu)
- EOFY18 in situ metal: 216kt of nickel, 89kt of copper and 7kt of cobalt

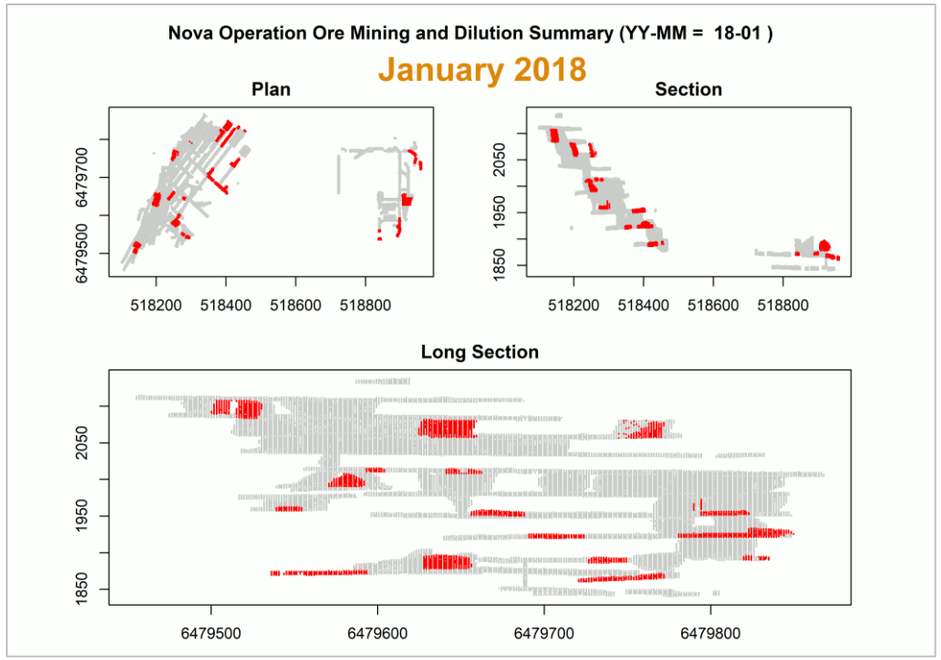
Key Modifying Parameters

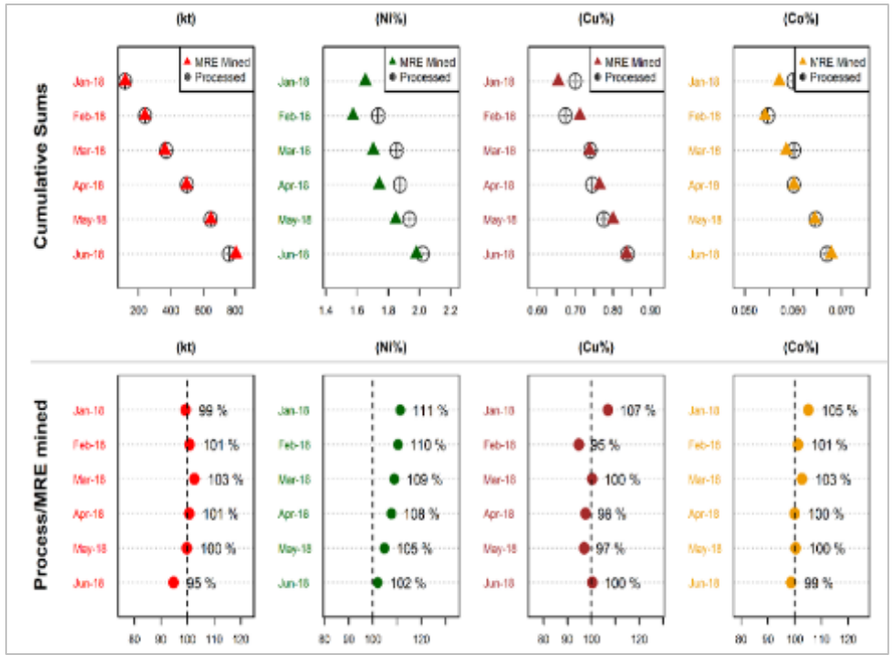
Resource Reconciliation

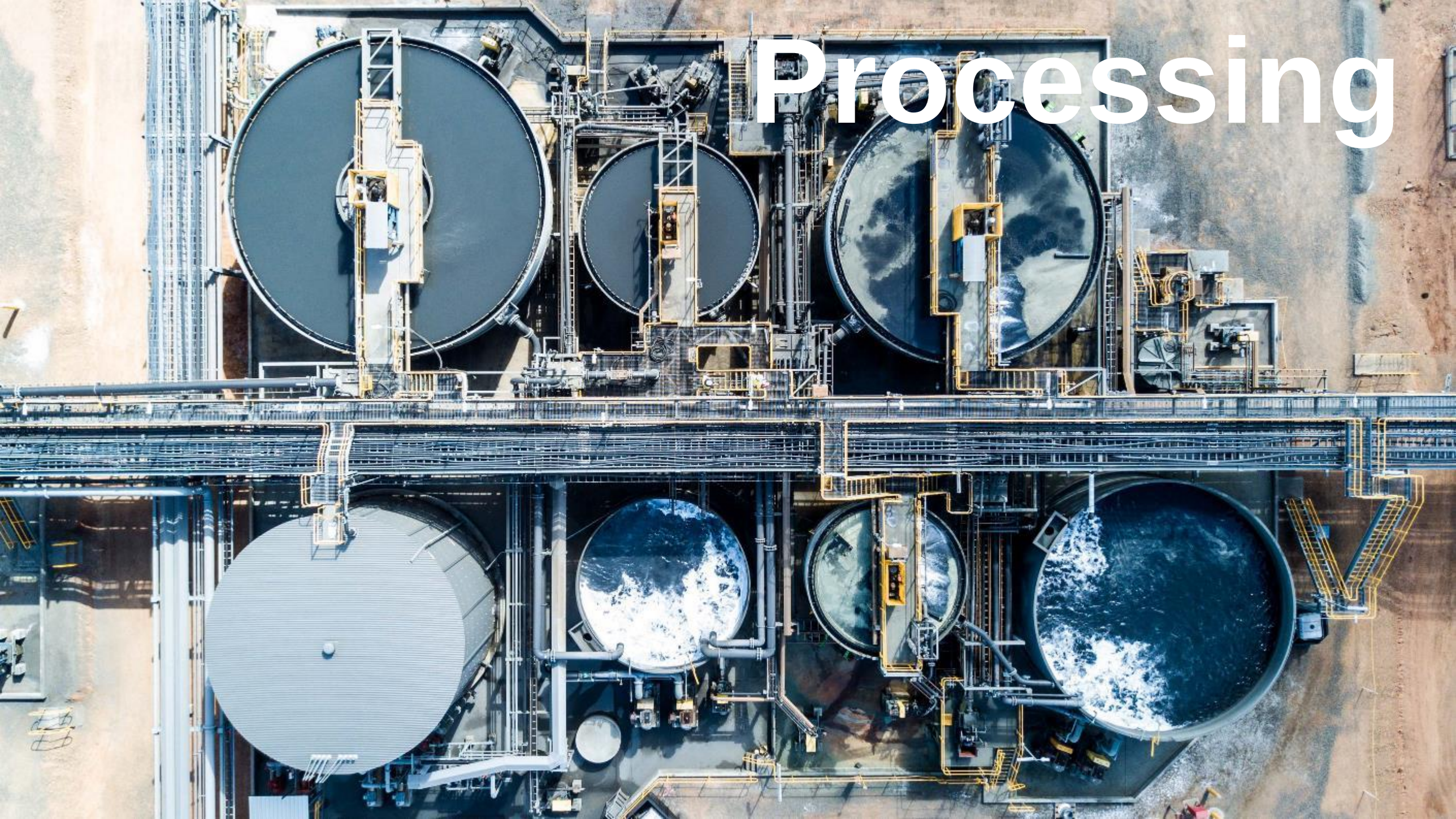
Mineral Resource Reconciliation

Transitioned into centre portion of Nova/ Bollinger (H2FY18)

- Mineral Resource Estimate mined: 0.80Mt grading 1.98% Ni, 0.84% Co and 0.07%Co
- Nova Operation Processed actual: 0.76Mt grading 2.02% Ni, 0.84% Cu and 0.07% Co
  Reconciliation factors calculated as Processed/MRE model
  - Tonnage factor 107%
  - Nickel grade factor 102%
  - Copper grade factor 100%
  - Cobalt grade factor 99%







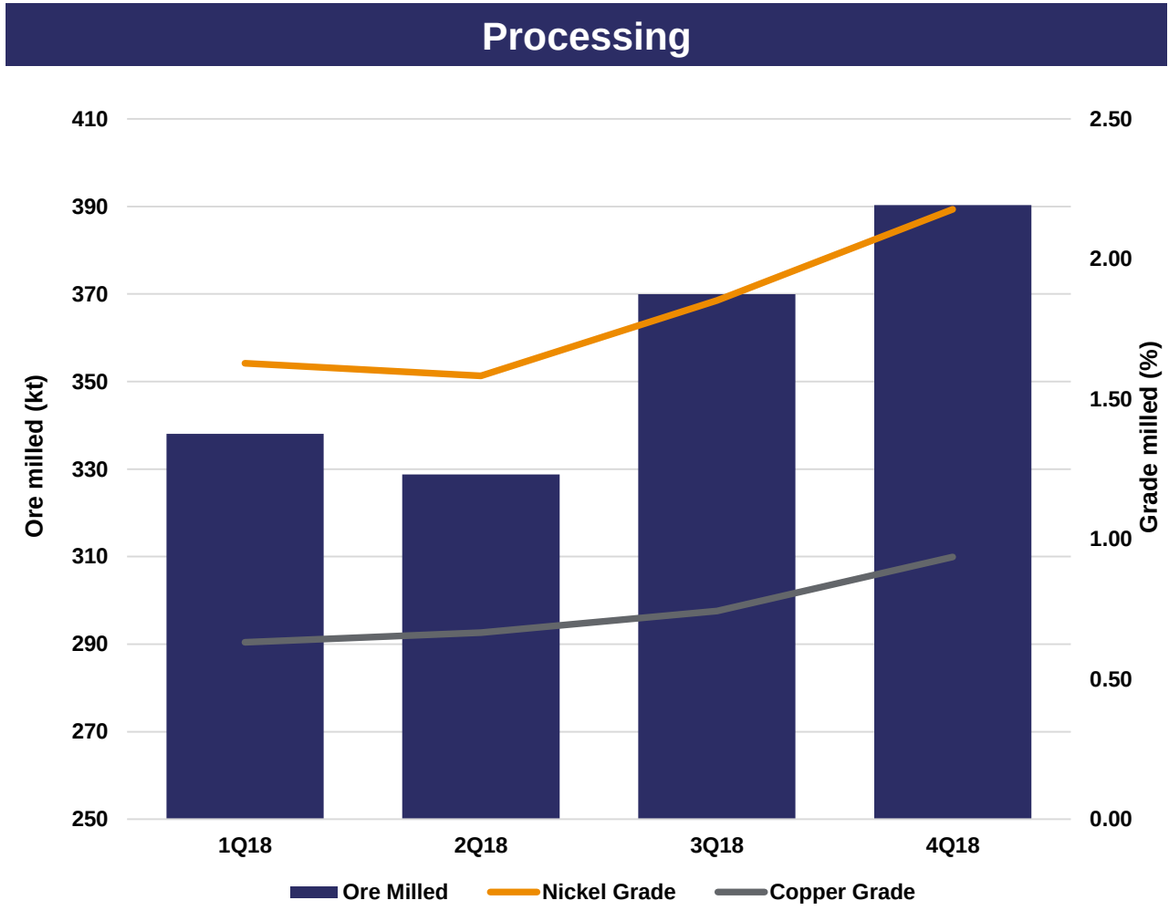
Processing

Processing Overview

Ramp up demonstrated quality and capacity of plant

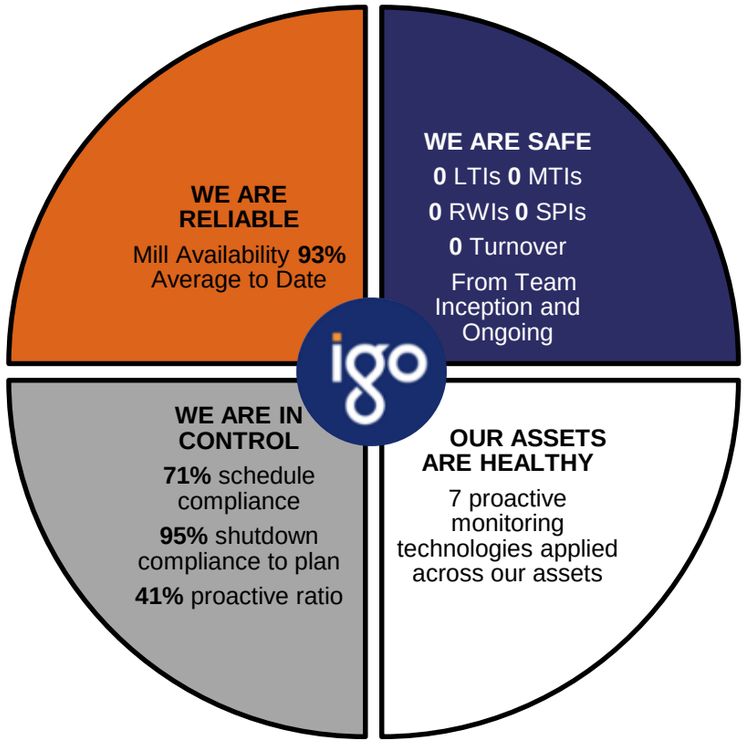
Successfully achieved nameplate in FY18

- Processing was mine constrained in 1H18
- Achieved nameplate run rate of 1.5Mtpa
- Increased throughout to 1.8Mtpa in 4Q18
- SAG mill liner issue disrupted 4Q18 production
  - Problem has been resolved and mitigation strategy in place
- Debottlenecking programme commenced in FY18 to achieve 1.8Mtpa (Project 800)
  - Pump speeds/ belts
  - Additional filter plates & optimisation
  - SAG feed chute redesign
  - Tails line upgrade



Maintenance

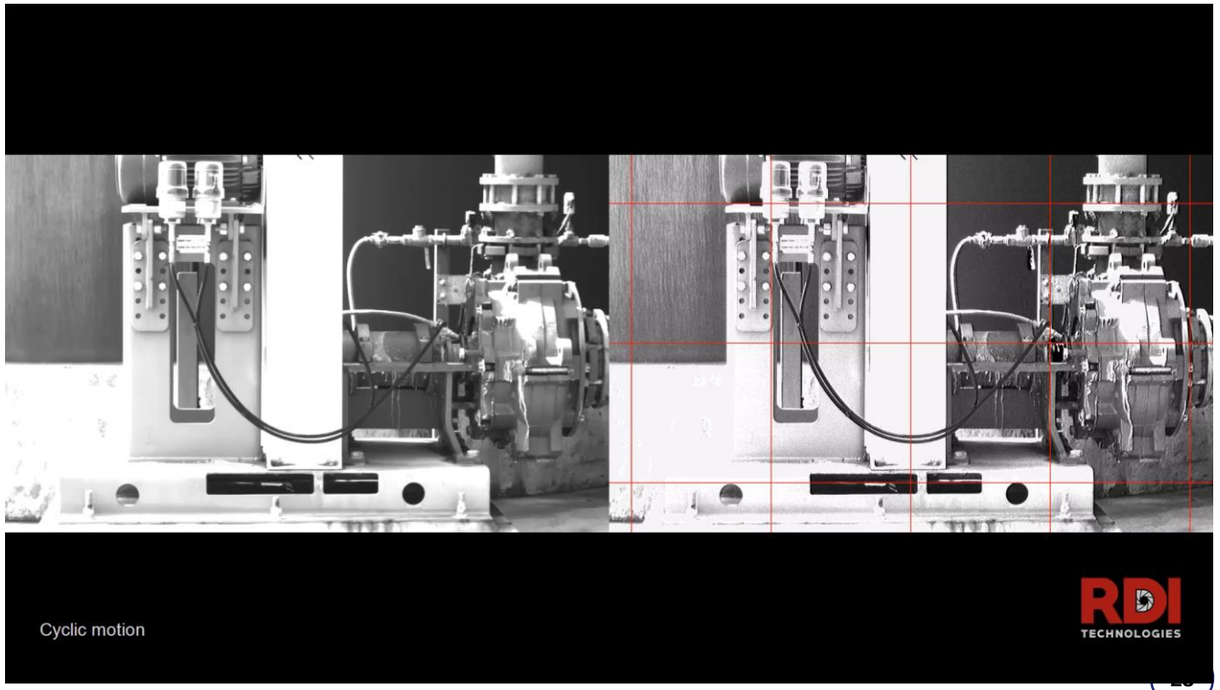
Protecting our assets



Our Mission: "Manage Nova's assets to achieve the highest level of performance at the lowest cost of ownership. A reliable site is a safe site is a cost effective site."

Strongly developed management strategy

- Conditional Monitoring – predictive versus reactive
  - Vibration analysis
  - Thermography
  - Motion Amplification
  - Lubrication Analysis
  - Airborne Acoustics
  - Visual Inspections
  - Performance Monitoring

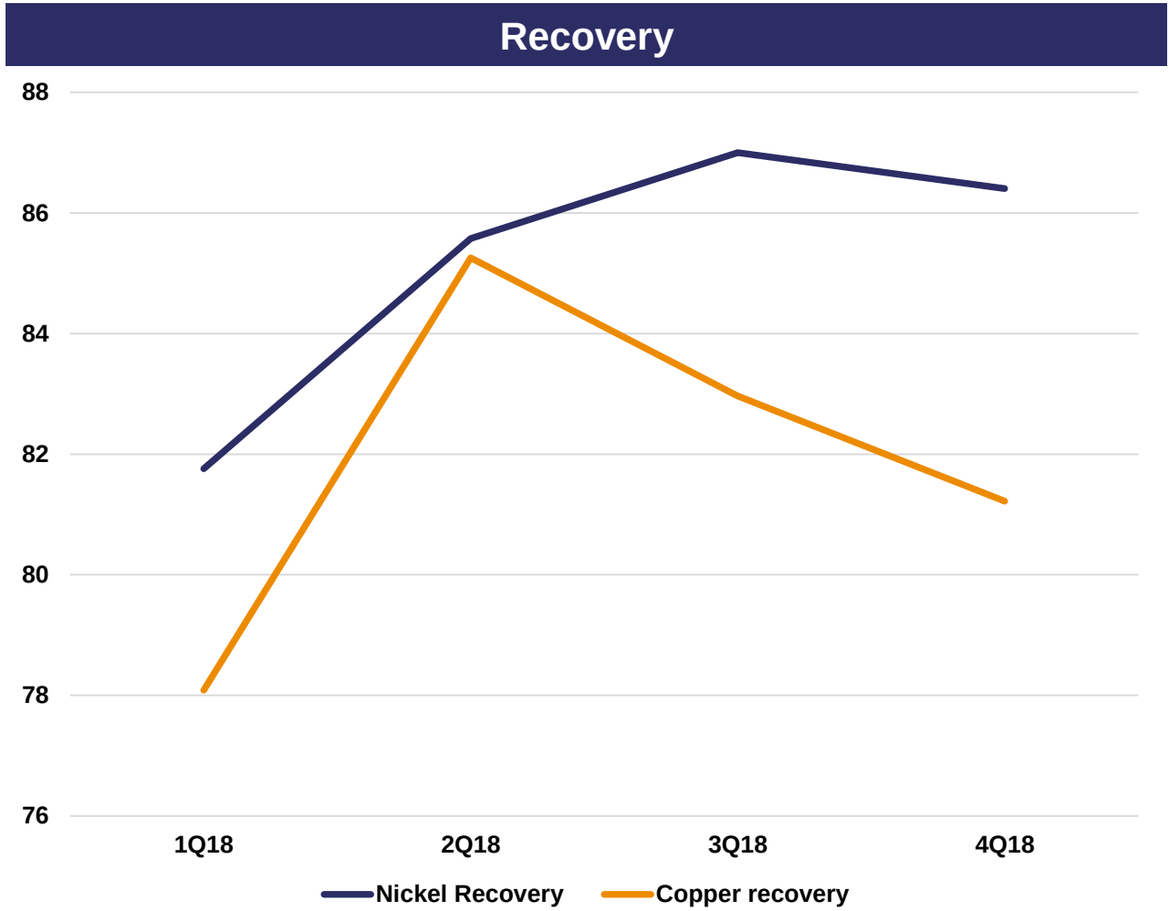


Processing Overview

Key focus on recoveries for FY19

Metallurgical Recoveries with focus on Copper

- Metallurgical recoveries impacted at higher throughput rates
- Copper recoveries have proved challenging
  - Loss in both fines (-10um) and coarse (+100um) fraction
  - Poor Cu-Ni selectivity in the Cu circuit
  - Poor Cu Cleaner performance
- Changes being implemented in FY19
  - Change control philosophy (mass pull to Cu grade)
  - Reagent dosages
  - Reduce fines generation
  - Increase residence time
- Seeing improvement in Cu recoveries



Processing FY19 Focus

Deliver guidance and progress continuous improvement program

Optimisation and cost reduction levers

- FY19 Budget based on 1.5Mtpa run rate and recoveries of 88% Ni and 85% Cu
  - Program in place to improve copper and nickel recoveries
- Cost reductions initiatives
- Improvement capital included in budget to sustain processing at a future 1.8Mtpa throughput
  - Process control
  - Additional freshwater capacity via RO plant upgrade
  - Improved water reclamation and recycling

People and Community

People

Nova's greatest resource

Nova employs approximately 460 employees and contractors

- 39 people from local or surrounding areas
- 88% West Australians – 12% Eastern States and International

Future employment prospects

- Prioritising local people

Developing our people

- Learning for Leaders
- Cert IV Leadership

Creating a strong culture

- Engagement surveys
- Celebration of success

The health of our workforce is very important to us

- Sector leading LTIFR
- CONTAM monitoring program
- Well-being program
- Mental health awareness

Aboriginal Engagement

Respecting Traditional Owners

Ngadju have Native Title Determination over Nova lease

- The Land Use Agreement was signed in August 2014

Employment and Training

- 17 Aboriginal people employed at Nova
  - 3 IGO Ngadju Employees
  - 9 Contract Partner Ngadju Employees
- 2 Ngadju business partners
- Nova Vocational Traineeship Program
  - 6 Ngadju Trainees 2018 / 2019

Local Art and Language

- Concentrate shed art work
- Naming and signage
- Cultural awareness program

Community Engagement – Norseman & Esperance

We are proactive in our Local Communities

- Corporate Giving of $228,000 since July 2016
- Schools Programs i.e. *Follow the Dream, Girls Academy, TLG*
- Esperance Agricultural Day
- Business services such as Port Authority, Weed control, General services

Follow the Dream Program
Visit from Esperance High School to IGO head office

Down Stream Processing

Nova Downstream Processing

Potentially significant value driver for IGO

1) Photographs to the LHS are of the 1.6kg of nickel sulphate hexahydrate crystals produced in the metallurgical testwork. Photography by Karel Osten, Wood Plc

Value Drivers

1. Significant higher payabilities than traditionally received from concentrate offtake
2. Opportunity to maximise recovery at the concentrator
3. Premium price for metal compared to LME
4. Directly link IGO into energy storage supply chain

Nickel sulphate hexahydrate crystals produced from Nova nickel concentrate

- This was produced as part of the pre-feasibility metallurgical testwork completed in collaboration with Wood Mining and Minerals Australia and SGS Australia
- Testwork demonstrates the technical feasibility for the proposed hydrometallurgical process

Processes

- Leaching (Pressure oxidation)
- Solution concentration and purification
- Metal recovery through crystallisation

Results are positive

- Validate and improve upon the previous metallurgical assumptions
- Will likely positively impact capital and operating cost assumptions

Pre-feasibility Study remains on track for completion by December 2018

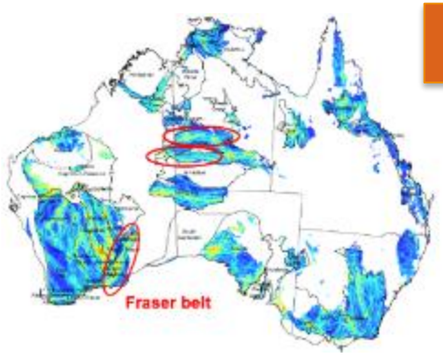
Exploration

Our Focus on Discovery

Our Focus on Transformational Discovery

Our People & Culture

- It is the team that makes discoveries
- Internal expertise balanced with execution capacity
- Value focused culture
- The right people in the right place at the right time



Our Ground

- Increasing our probability of discovery success
- Science driving our area selection
- Belt scale positions on emerging belts

Our Application

- Leading application of technology
- Schematic and data driven
- Staged and success driven

Our People - Exploration

Assembling a high-powered team … and investing in youth

Ian Sandl
GM Exploration

IGO - 11 months

Past 13 years with Teck Resources in Exploration Management positions, managing extensive portfolios in Asia, Africa and Australia

Steve Beresford (PhD)
Chief Geoscientist

IGO - 20 months

Recognised specialist in nickel sulphide mineralisation. Steve has held Chief Geologist positions with MMG and First Quantum

Paul Polito (PhD)
Manager – Albany Fraser

IGO - 19 months

Over 12 years with Anglo American in technical and leadership roles including Exploration Manager Australia

Andrew Fitzpatrick (PhD)
Chief Geophysicist

IGO - 8 months

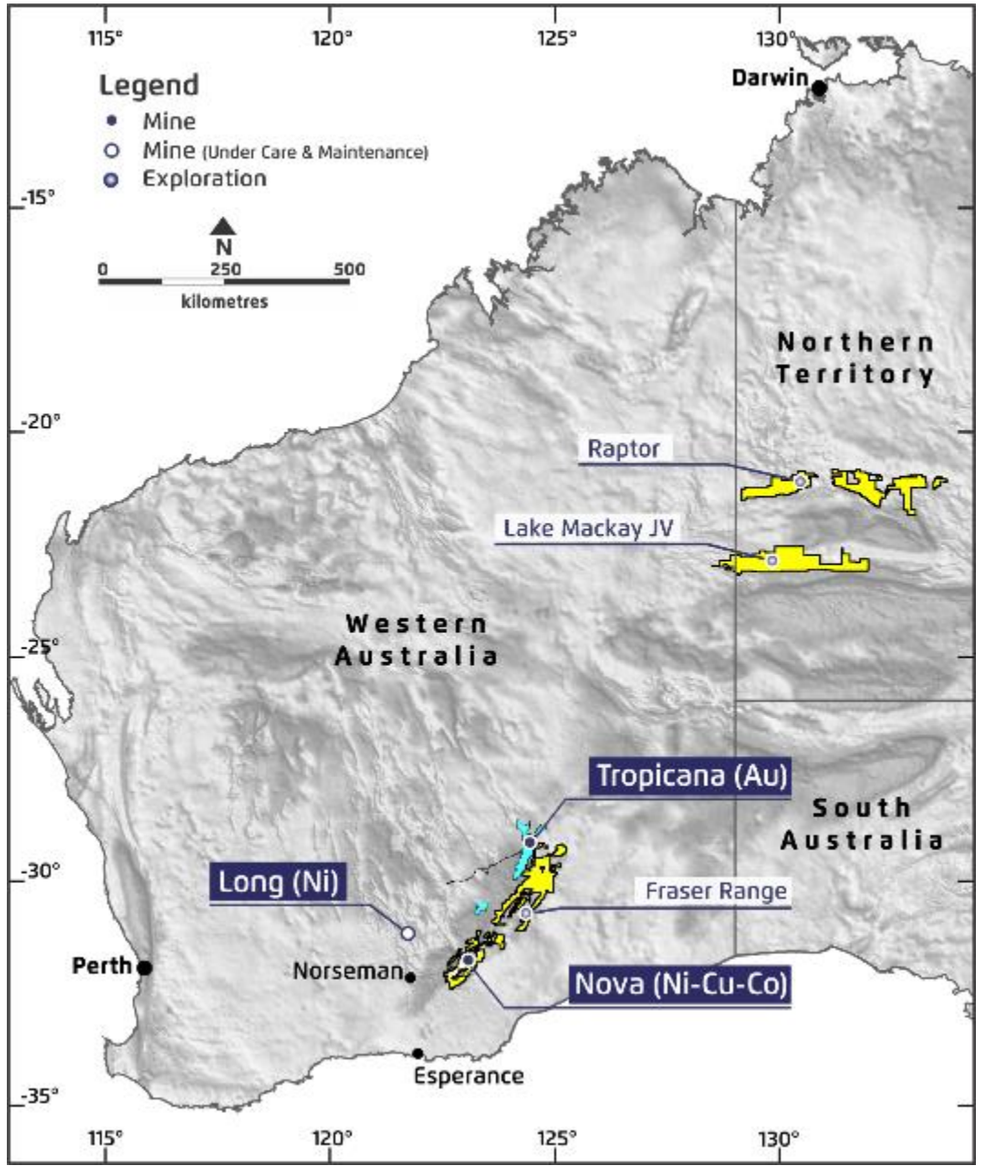
6 years with Cameco in technical leadership roles incl. Chief Geophysicist. Previously with CSIRO and Geoscience Australia

Working with a new and diverse team including

- PhD and MSc geologists specialising in economic geology,
- Project and exploration geologists with 5 to 10 years of Australian and global experience, and
- Several eager graduate geologists keen to make a difference

Making the right ground selection

Belt scale opportunities for battery metals



Fraser Range

- 15,000km^2 of tenure prospective for Ni-Cu, Cu-Zn and Au mineralisation
- IGO is the predominant land holder in the area

Lake Mackay

- Unexplored outcropping prospective Proterozoic belt
- Area under granted licences or application >12,800km^2
- AEM coverage identifying several new anomalies under shallow cover

Raptor

- Large tenement position over Willowra Gravity Ridge
- First-order conceptual target with evidence for prospective 1.81Ga mafic/ultramafic intrusions with Ni-Cu anomalism in drilling
- Limited historic exploration; predominantly Au focus
- Sparse geophysical and geochemical coverage

Technology, Innovation and R&D

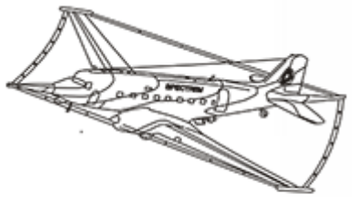
A core enabler for discovery

IGO is focused on technology, innovation and R&D as a core enabler for discovery

- Integrating technologies, innovation and R&D into our work streams
- Across all scales from microscopic to continental scale
- Embedded into our business

Spectrem Airborne EM

- Engaged to directly detect massive sulphides and aid geological mapping
- Better signal to noise ratio for deeper detection
- Slingram configuration – insensitive to IP effects (unlike helicopter AEM)



Embedded Research

- Embedded Postdoctoral Fellowship in partnership with CSIRO/UWA
- Focused on understanding the Nova deposit and applying the knowledge
- Enhanced target generation, both near mine and regionally

CSIRO

THE UNIVERSITY OF WESTERN AUSTRALIA

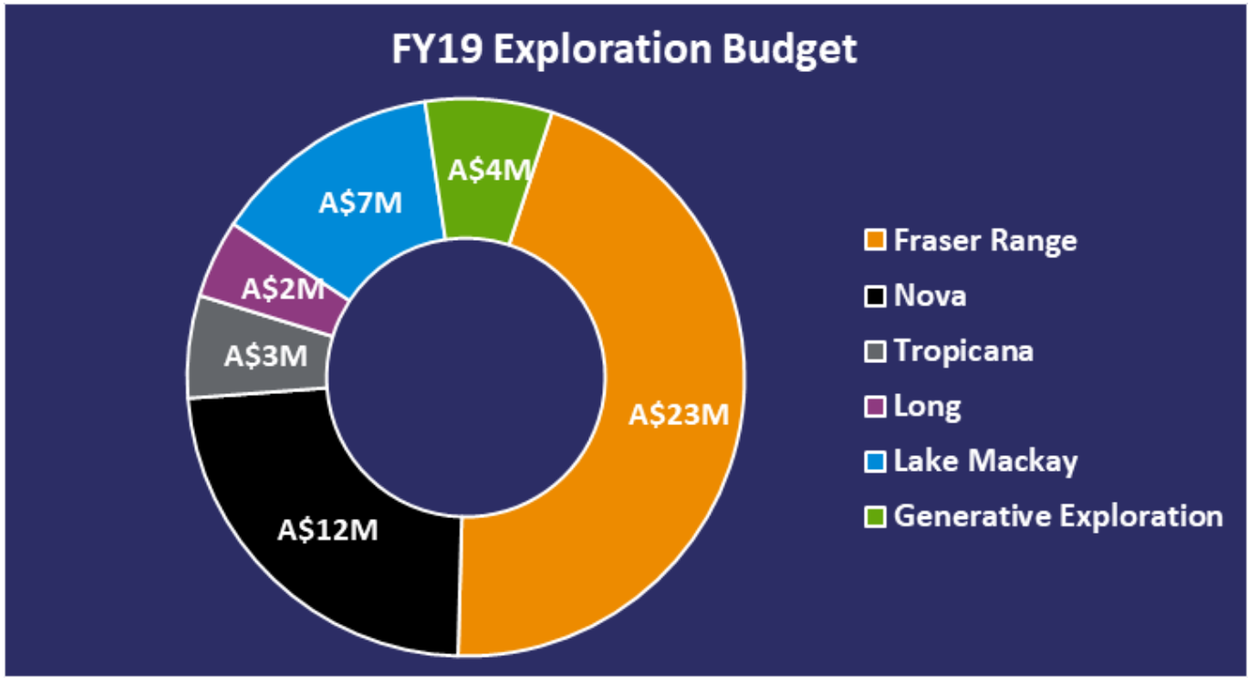
3D Seismic Geophysics

- First mover for 3D seismic survey at Long Operation in 2008
- Tropicana 2D data collected in 2012, 3D survey completed in 2014
- Completed 2D survey at Nova, now completing large, detailed 3D survey

HiSeis

FY19 Exploration

A$51M commitment to exploration in FY19



Geological Setting

Introduction to Magmatic Sulphide Mineralisation

Mafic versus Komatiite Ni deposits

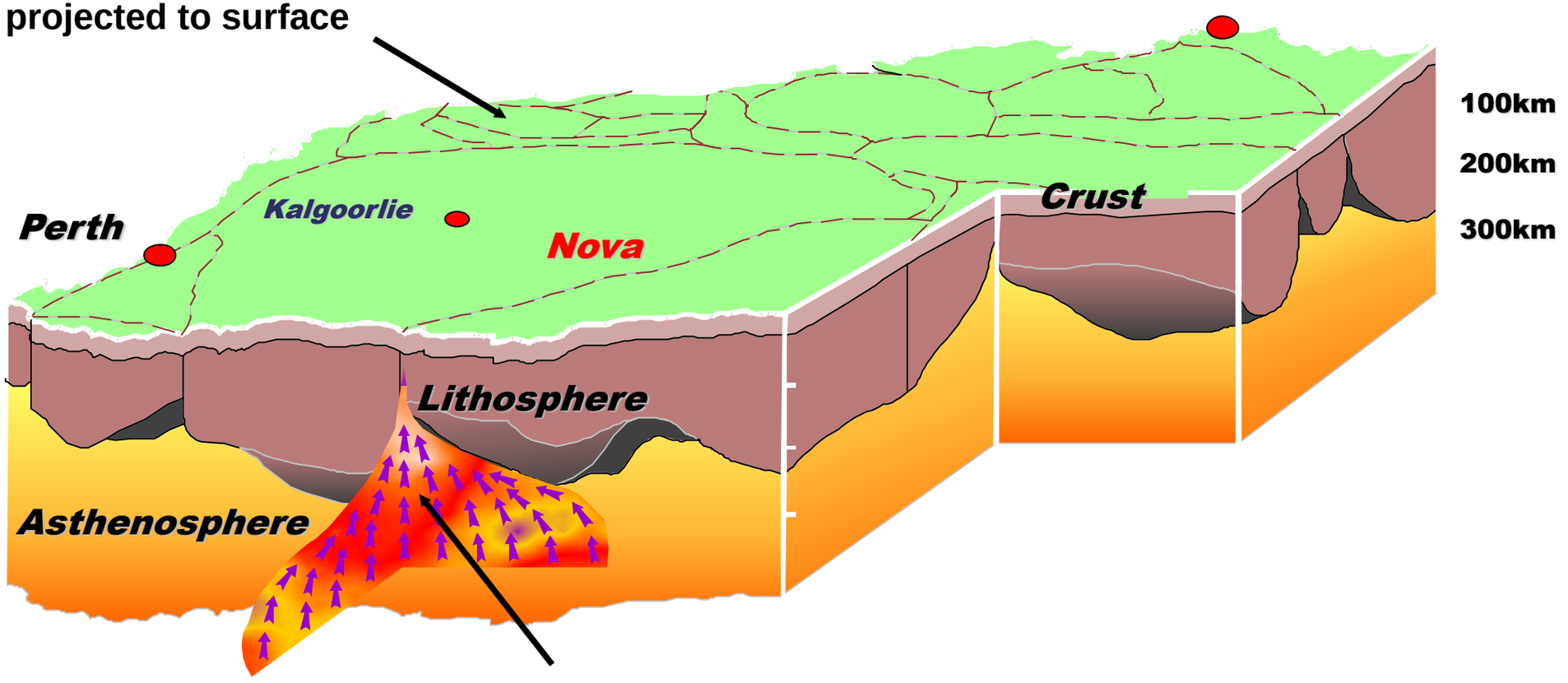
Mafic hosted Ni-Cu deposits differ from komatiite hosted Ni deposits. This table summarizes the key features that impact on discovery

Mafic Ni-Cu-Co deposits	Komatiite hosted Ni sulphide deposits
Polymetallic Ni, Cu, Co, +/- PGE, +/- Ag	Ni only
Large tonnage but lower Ni grade	Small tonnage but higher Ni grade (tenor)
Craton margin largely in Proterozoic mobile belts	Archean cratons
Intrusive only (deep to shallow crust)	Largely extrusive (surface and near surface only)
Ultramafic-mafic rocks	Ultramafic
Difficult to map with magnetics	Easy to map with magnetics
Nova, Savannah, Nebo-Babel (Jinchuan, Noril'sk, Voisey's Bay, Kabanga)	Kambalda, Mt Keith, Venus (Raglan)

Introduction to Magmatic Sulphide Mineralisation

Why the craton margin?

Upper Lithospheric Domains interpreted at 100km depth and projected to surface

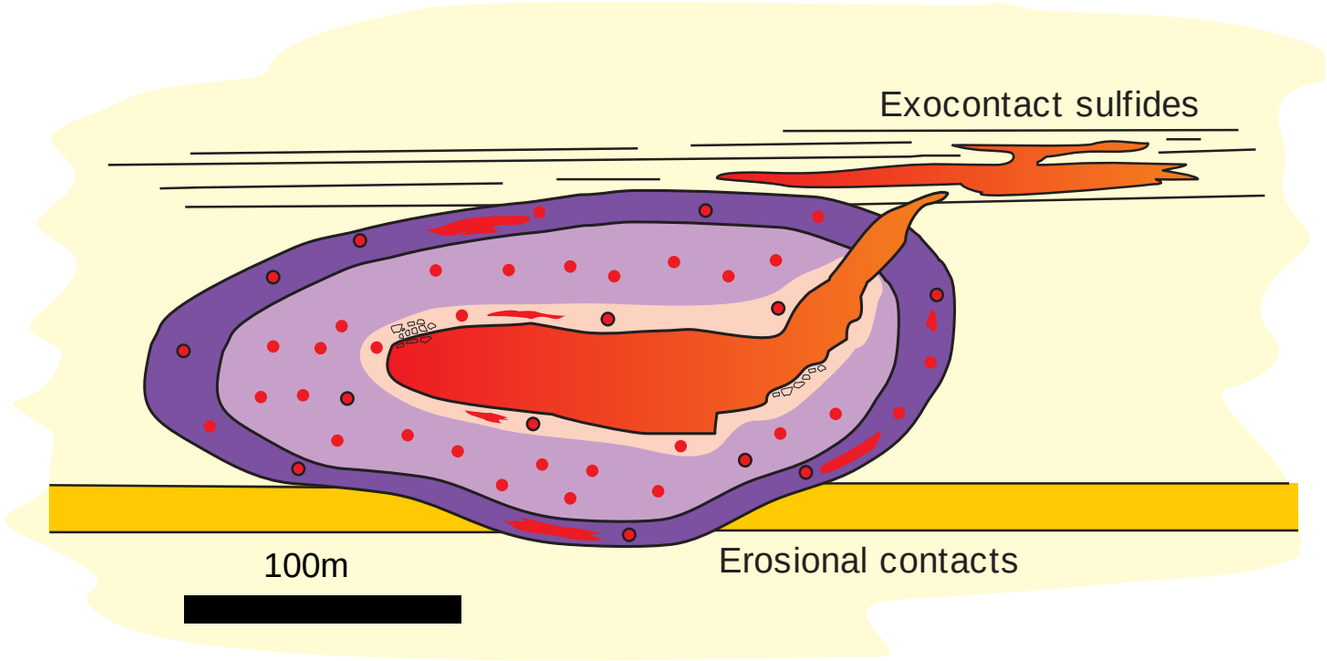


Rising plume melt channelled into Sub-vertical conduit

Introduction to Magmatic Sulphide Mineralisation

Orthomagmatic Ni-Cu-Co deposits are hosted by unusual intrusions called chonoliths

- Chonoliths are small pipe like intrusions
- Nova is a typical chonolith hosted Ni-Cu deposit, similar to:
  - Noril'sk,
  - Kabanga,
  - Jinchuan,
  - Voisey's Bay,
  - Savannah, and
  - Nebo-Babel
- The Magmatic sulphide ore deposit is entirely hosted inside the intrusion

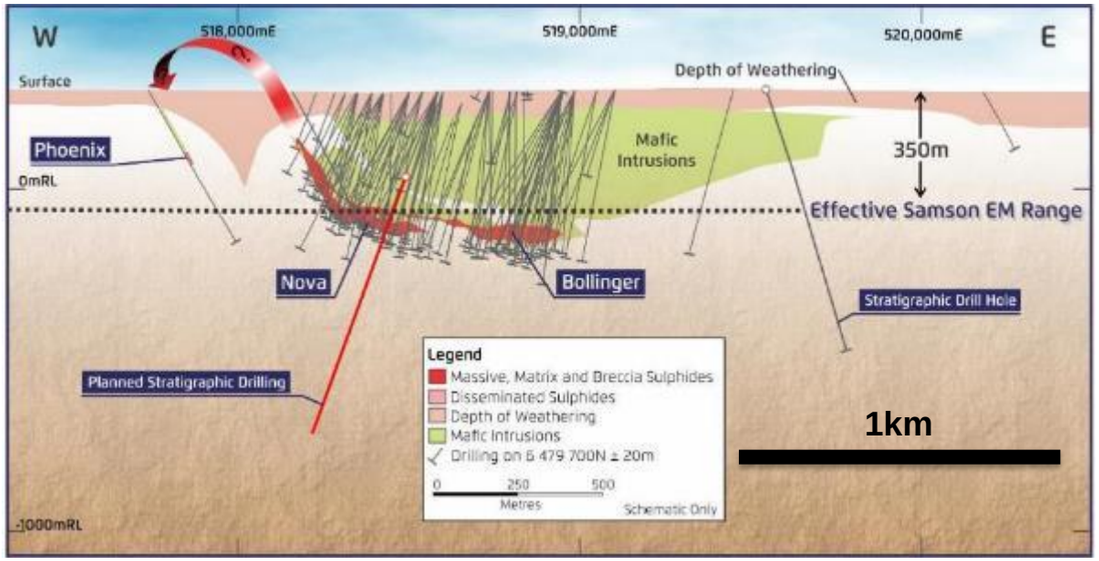


Introduction to Magmatic Sulphide Mineralisation

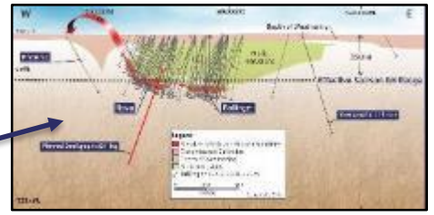
What do mafic Ni-Cu deposits and camps look like? The Voisey's Bay example:

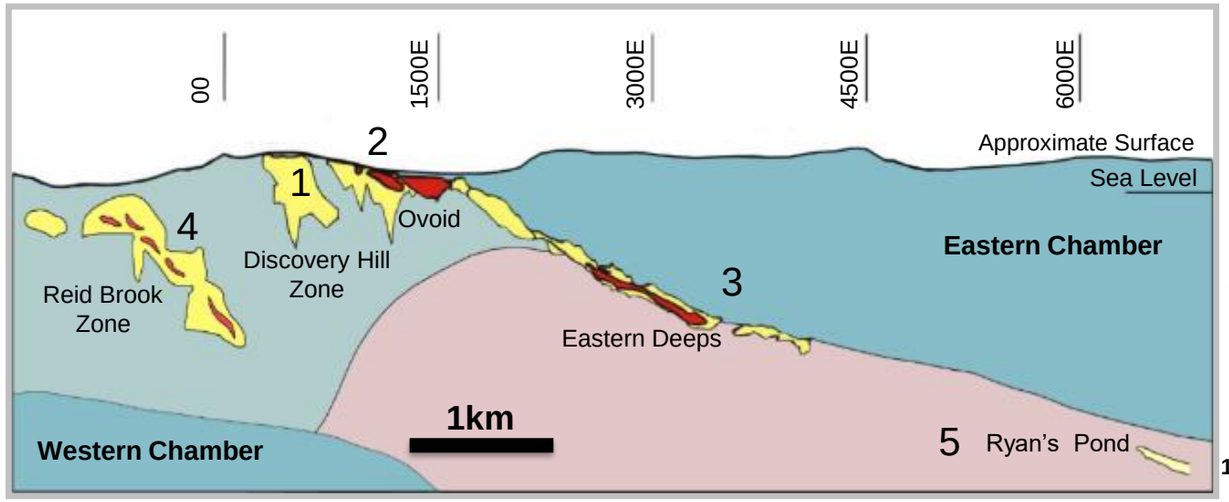
Scale

- Mineralisation usually occurs over >6km zone
- There are always multiple lenses, often >5
- Nova – Bollinger is currently within a 1km zone
- Nova – Bollinger has 2 lenses

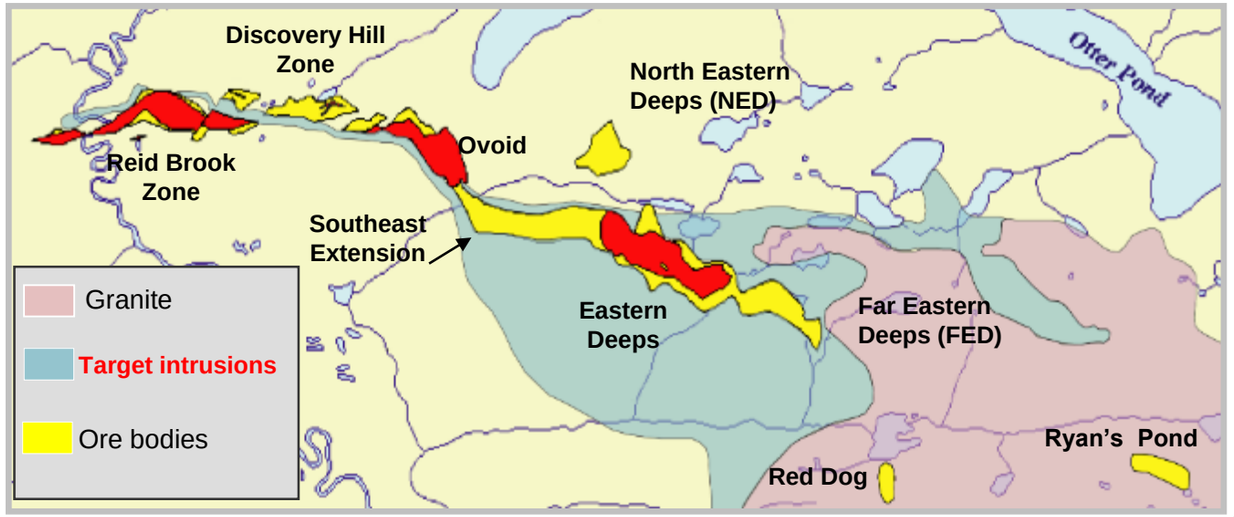


Nova-Bollinger at same scale as Voisey's Bay to the right





Long Section



Plan

Lightfoot, 2007

Prospectivity

Why Explore in the Albany Fraser?

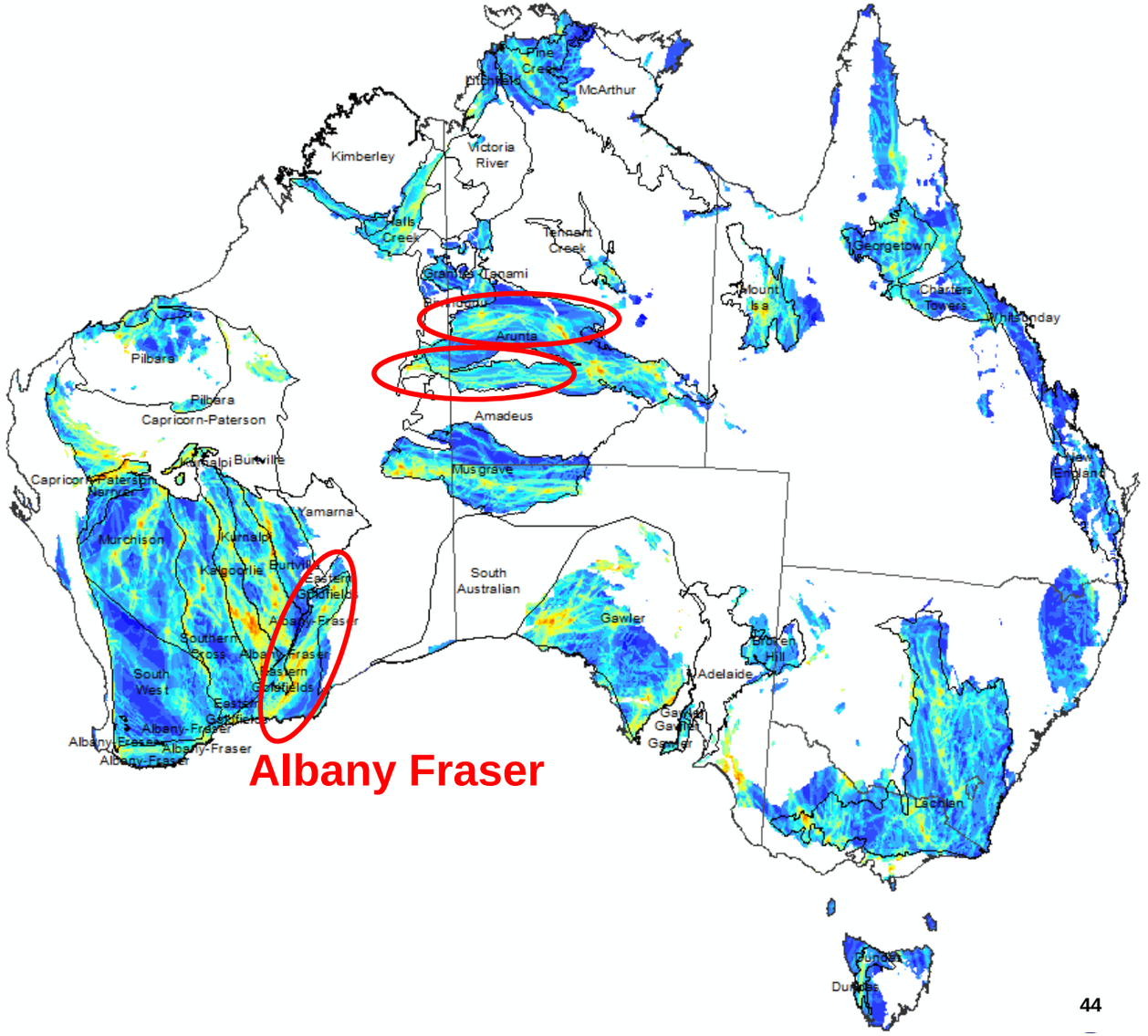
Prospectivity map for Ni sulphide potential (Warm colours denote higher prospectivity)

The Albany Fraser has long been known to be highly prospective for Ni-Cu deposits

The belt has largely been held by one group since 1979

Despite the recent focus of exploration since the discovery of Nova, the belt has low exploration maturity

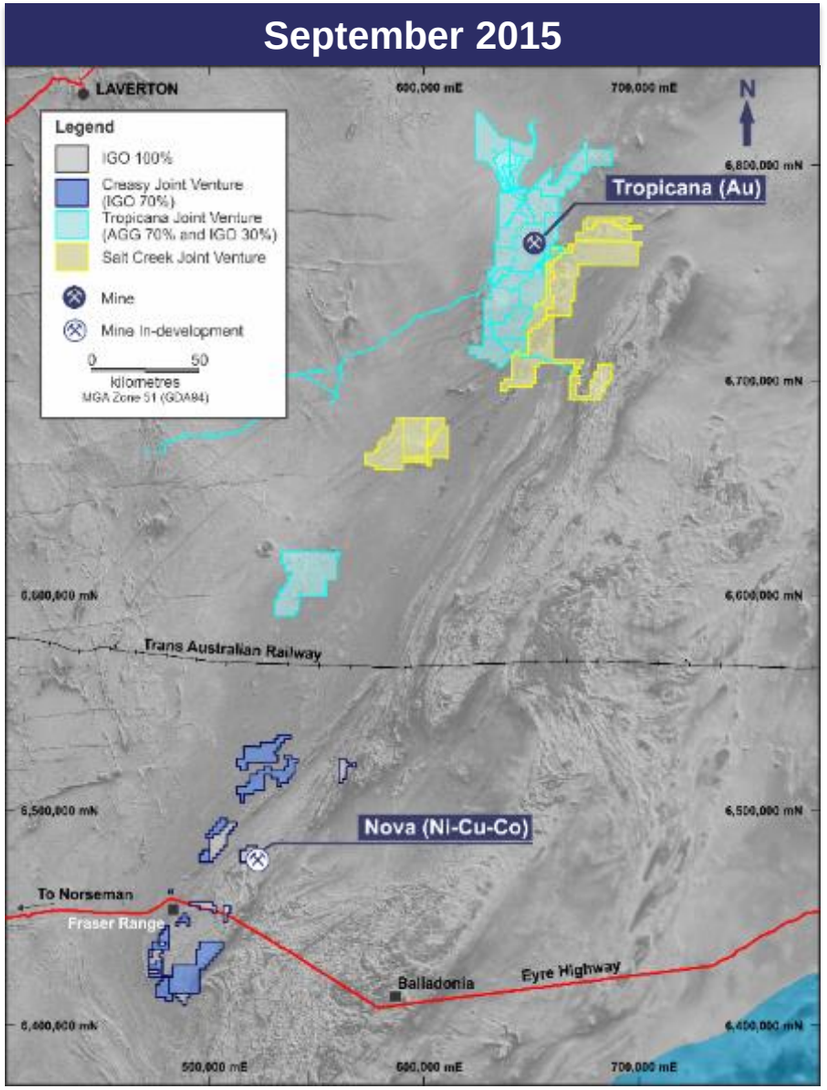
Underexplored belts of this scale and potential are rare in Australia

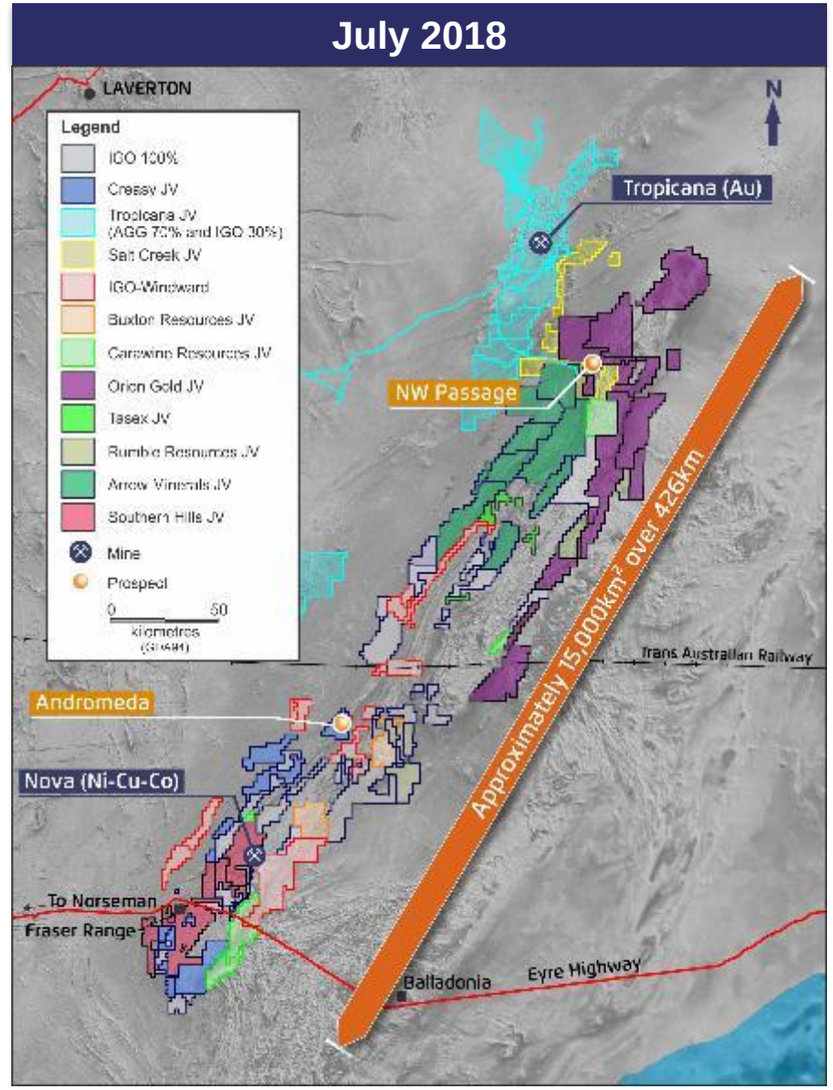


Why Explore in the Albany Fraser?

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

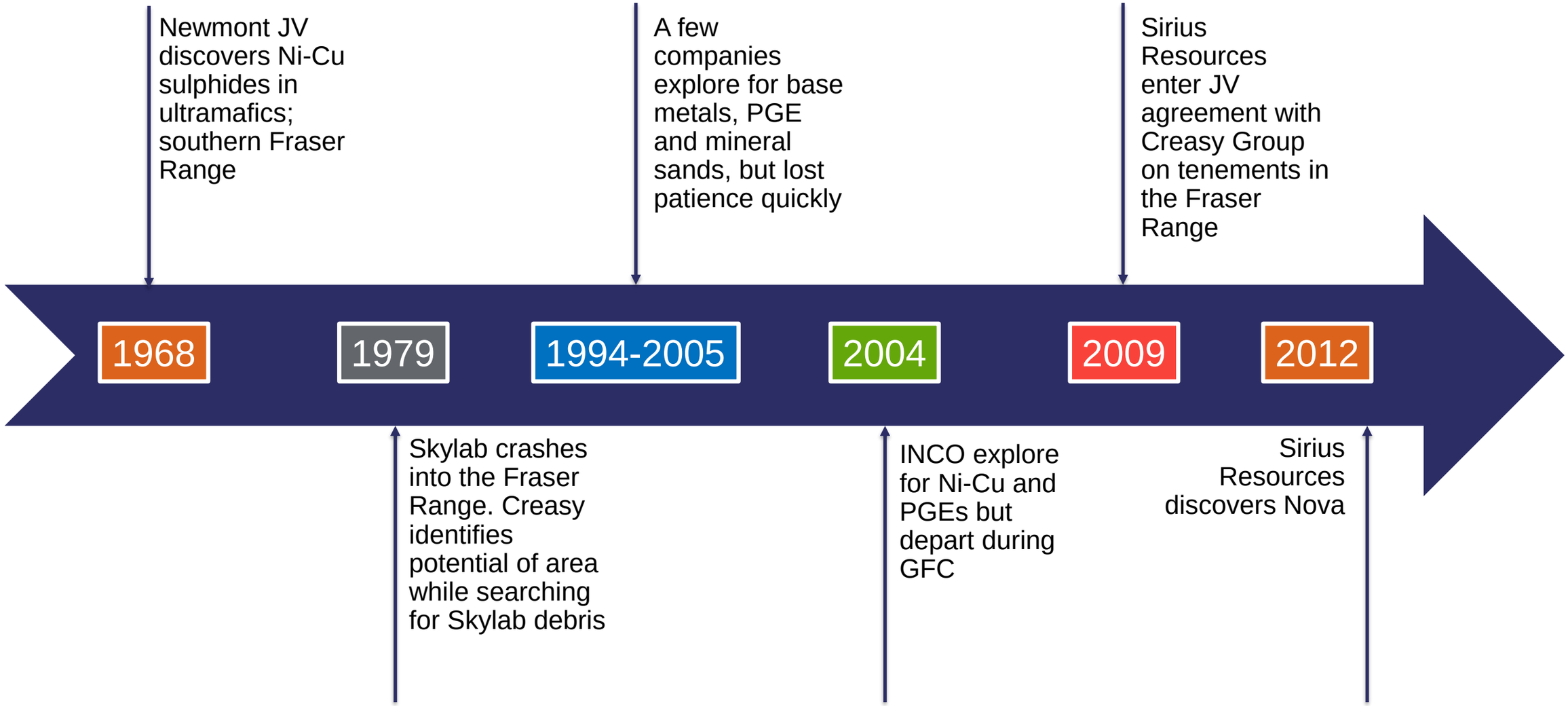
- IGO has the largest land-holding in the Fraser Range of any ASX listed company
- Increased ground holding on prospective tenure by >410%
- Creation of belt-scale opportunity leveraged to Nova and Tropicana Operations
- Focused on transformational discoveries (greenfields exploration with brownfields infrastructure)
- Current land-holding ~15,000km²





Why Explore in the Albany Fraser?

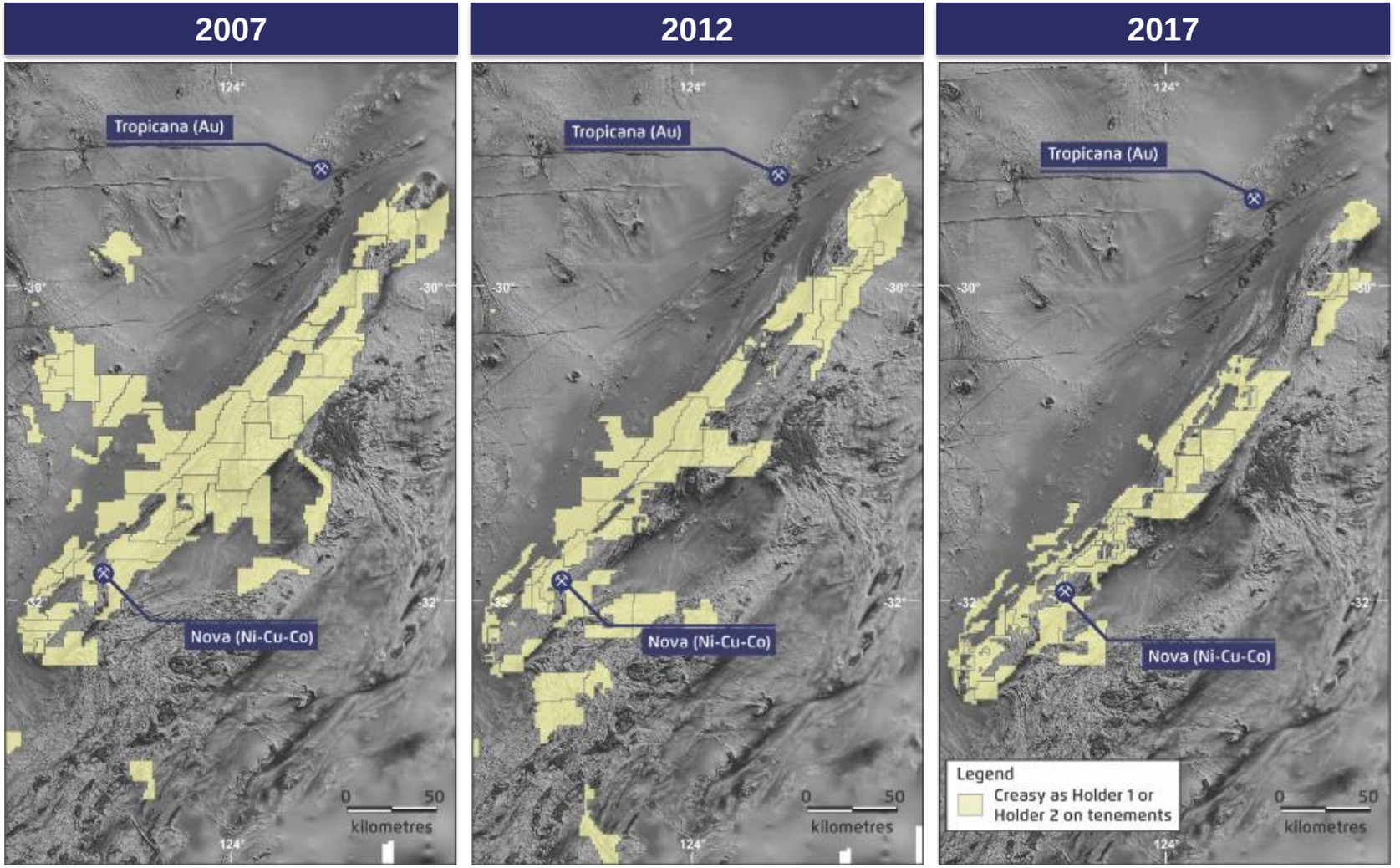
An emerging belt with zero to little previous exploration



Why Explore in the Albany Fraser?

It’s a matter of which companies have been exploring the belt for the past 35 years

- Creasy controlled companies have held and continue to hold large areas of tenement to today
- A review of exploration activities in the Albany Fraser Belt reveals that exploration has been patchy and shallow.
- Creasy has done much work, but many opportunities remain

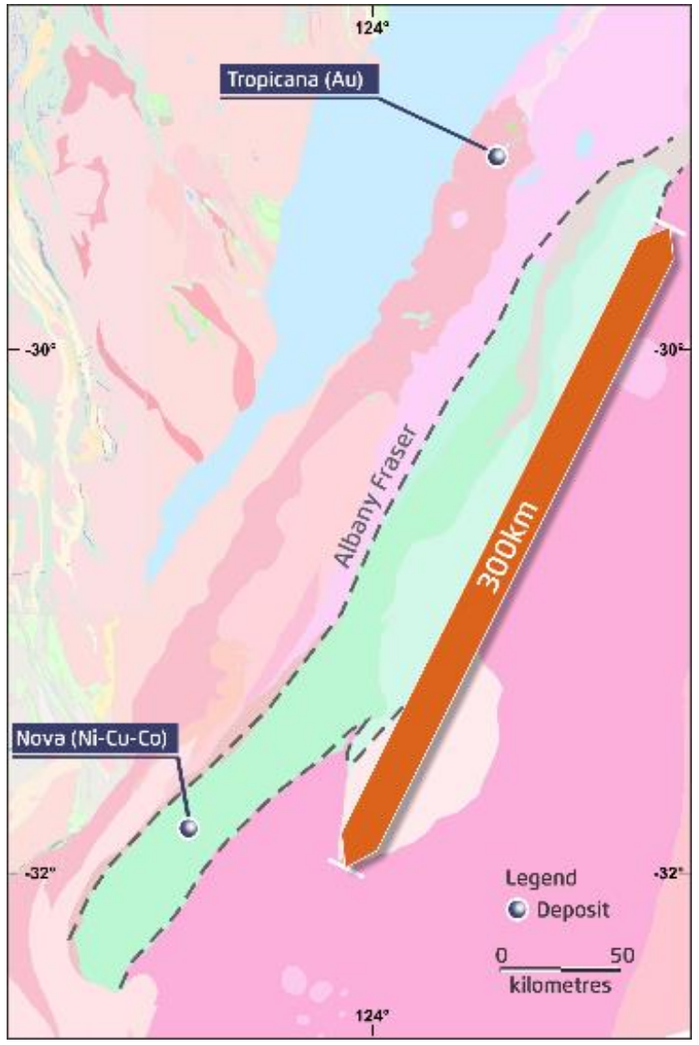


Why Explore in the Albany Fraser?

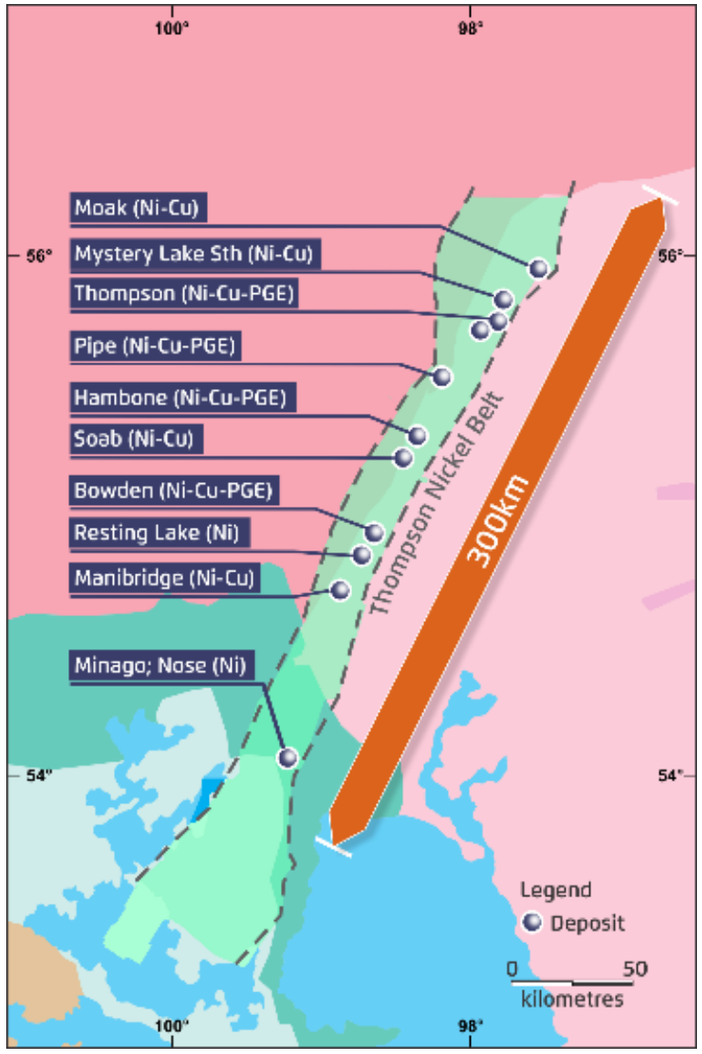
There are very few other belts with as much upside as the Albany Fraser

- Orthomagmatic Ni-Cu deposits often occur along entire belts
- Newmont, INCO and Sirius were all drawn to the Fraser Range as a Thompson Belt analogue
- The Thompson Belt has multiple deposits and prospects along it, others include Pechenga, Raglan and Sveccofenian
- The Albany Fraser Belt is longer than any of these belts and has Ni-Cu sulphide showings 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)

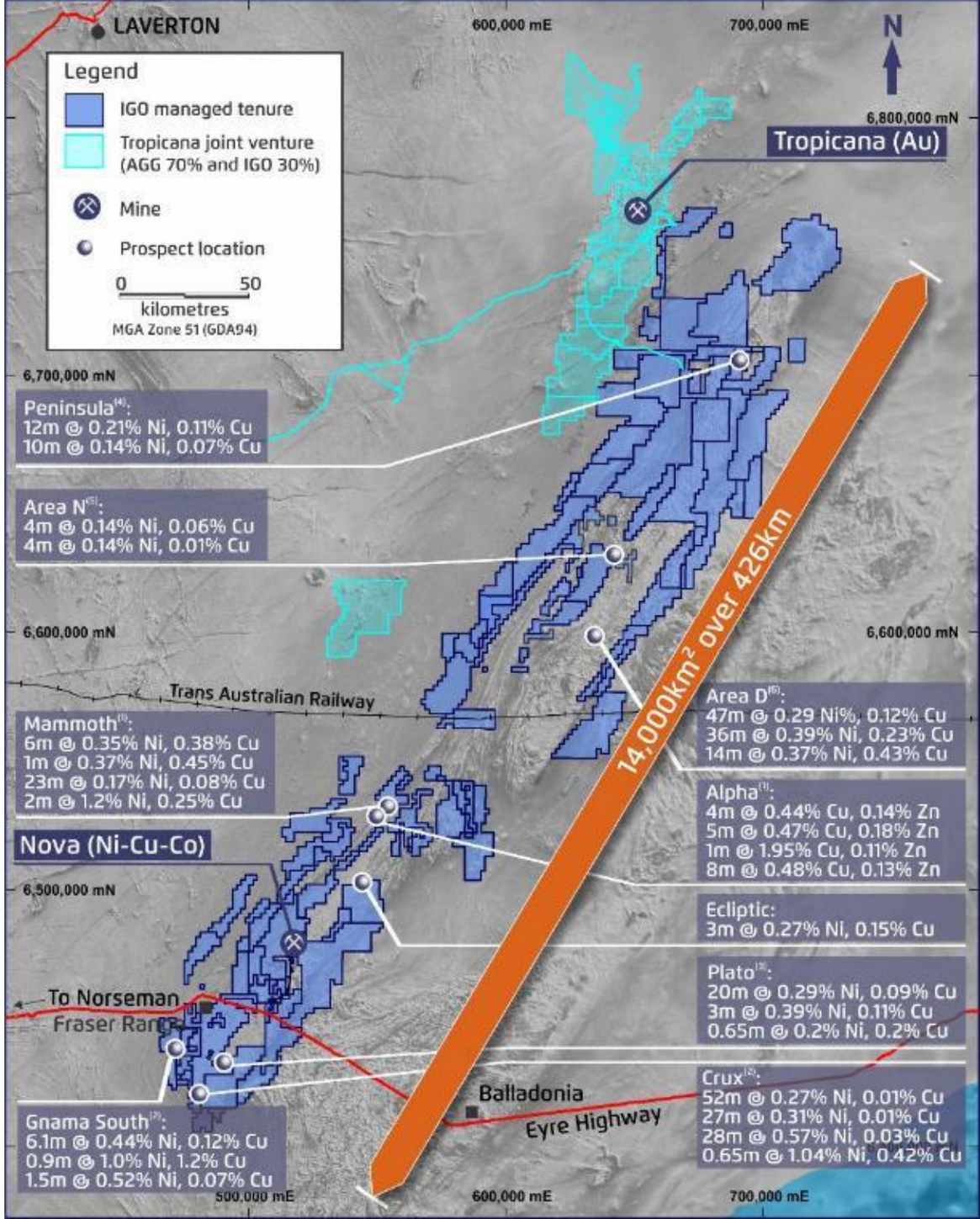


1) Manitoba Geological Survey Nickel in Manitoba update 2016; Manitoba.ca/minerals

Why Explore in the Albany Fraser?

Applying the concept “where there’s smoke there’s fire”

- Several mafic/ultramafic intrusions are known to occur along the Albany Fraser
- 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, some with Ni-Cu sulphides is typical for belts that host multiple Ni-Cu deposits

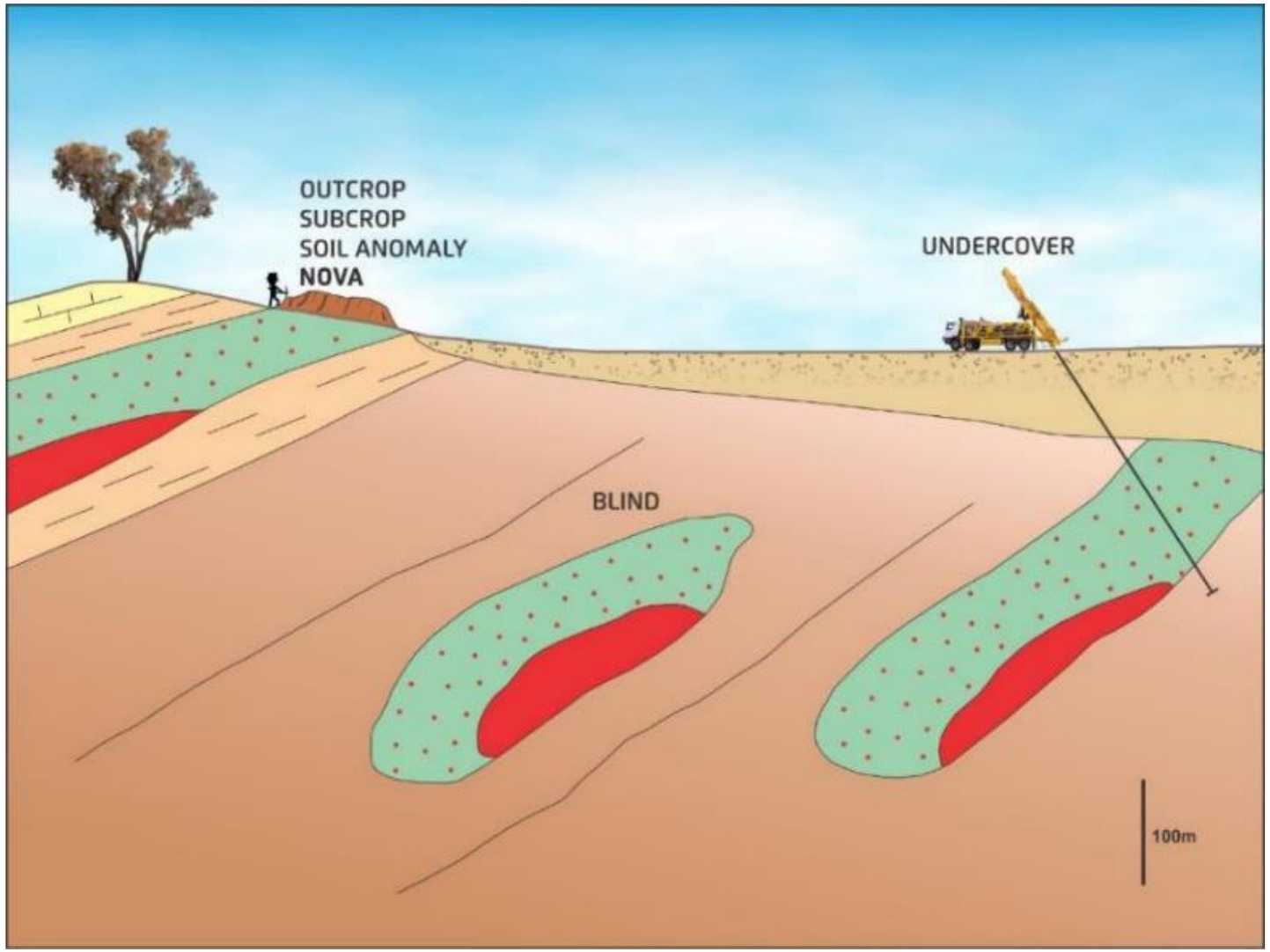


1) Classic Minerals ASX Releases: 29 August 2013, 12 December 2013 and 17 December 2016
2) Sirius Resources ASX Release June 2015 Quarterly and
3) Enterprise Metals EIS Final Drilling Report to DMP: 25 July 2014
4) Orion Gold ASX Release 17 March 2014
5) Legend Mining ASX Release 6 June 2017
6) Legend Mining ASX Release 12 January 2018, 12 April 2018

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
- The mineral explorers ‘toolbox’ changes with the ‘search space’ (depth to target, cover thickness and cover type)
- We need and will use a range of systematic approaches/technologies and ideas to make the next discovery
- These include:
  - Airborne and ground Electromagnetics
  - Systematic Aircore drilling for geology and geochemistry
  - Gravity data
  - Diamond and RC drilling
  - R&D through tested institutions

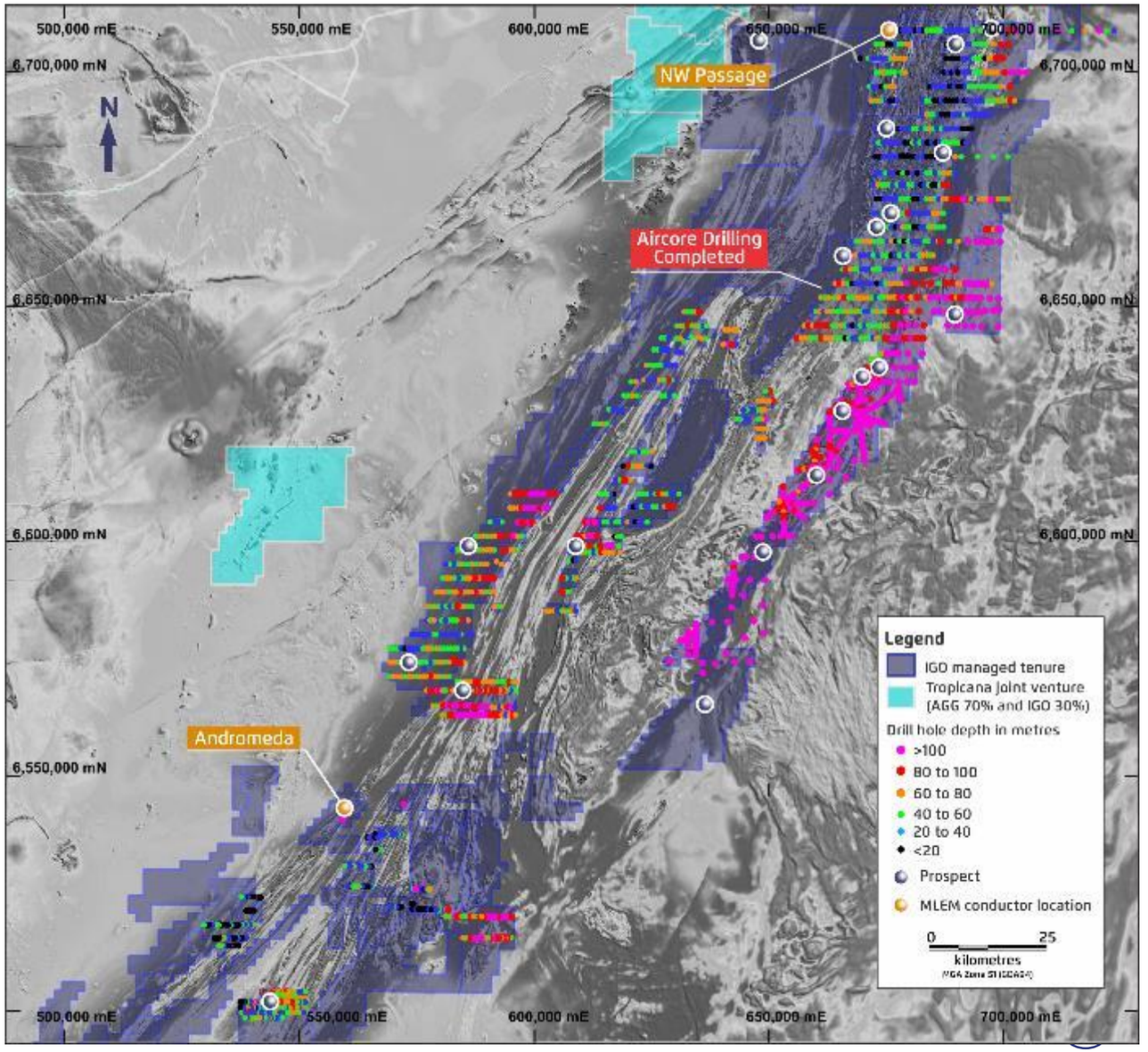


Getting the job done

Fraser Range Exploration – Regional Greenfields

Aircore drilling has identified a thin manageable cover, mostly <50m

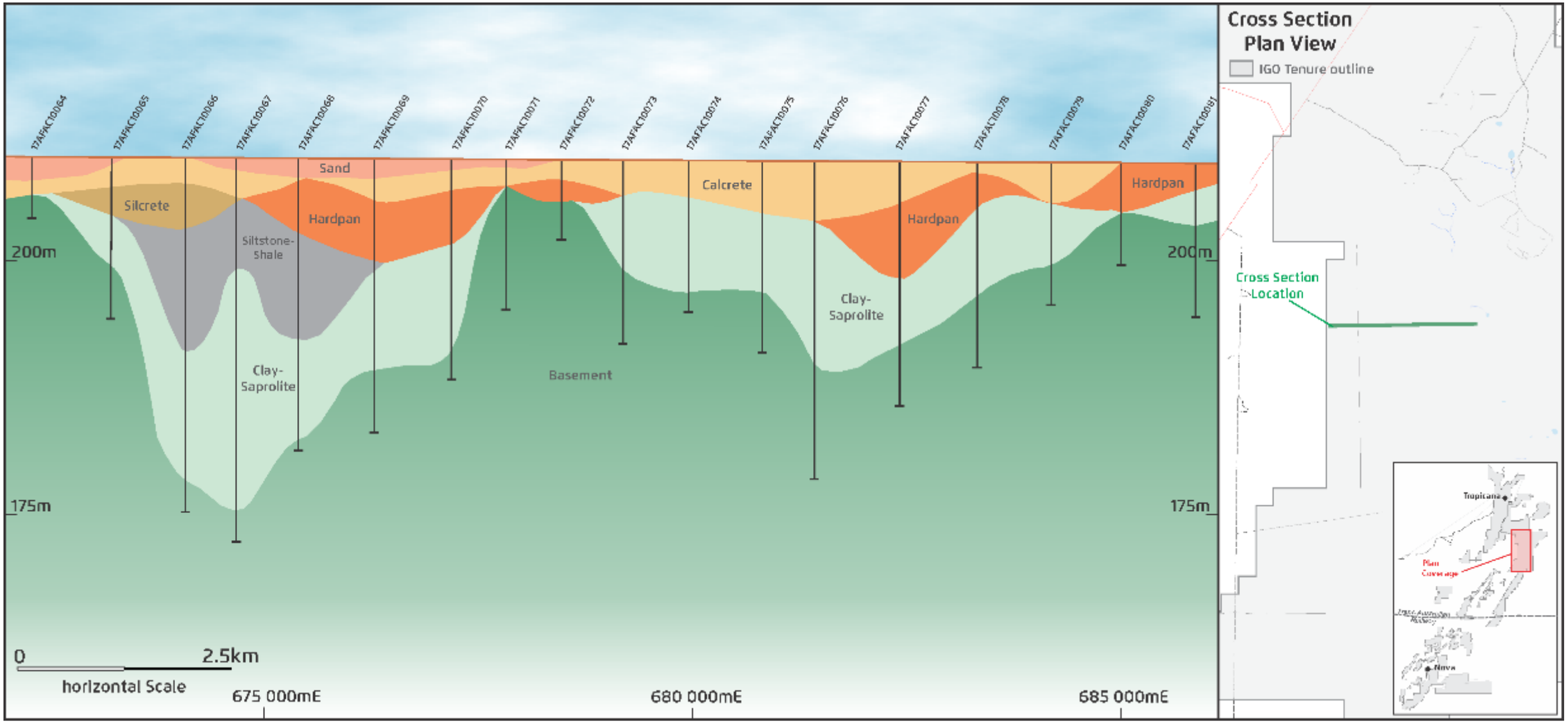
- >145,000km of aircore drilling for 2,057 drill holes completed since May 2017 identifying:
  - Depth to basement,
  - Basement geology,
  - Geochemical anomalies for follow-up, and
  - Redefining our search space



Fraser Range Exploration – Regional Greenfields

Previous exploration has been ineffective – soil sampling

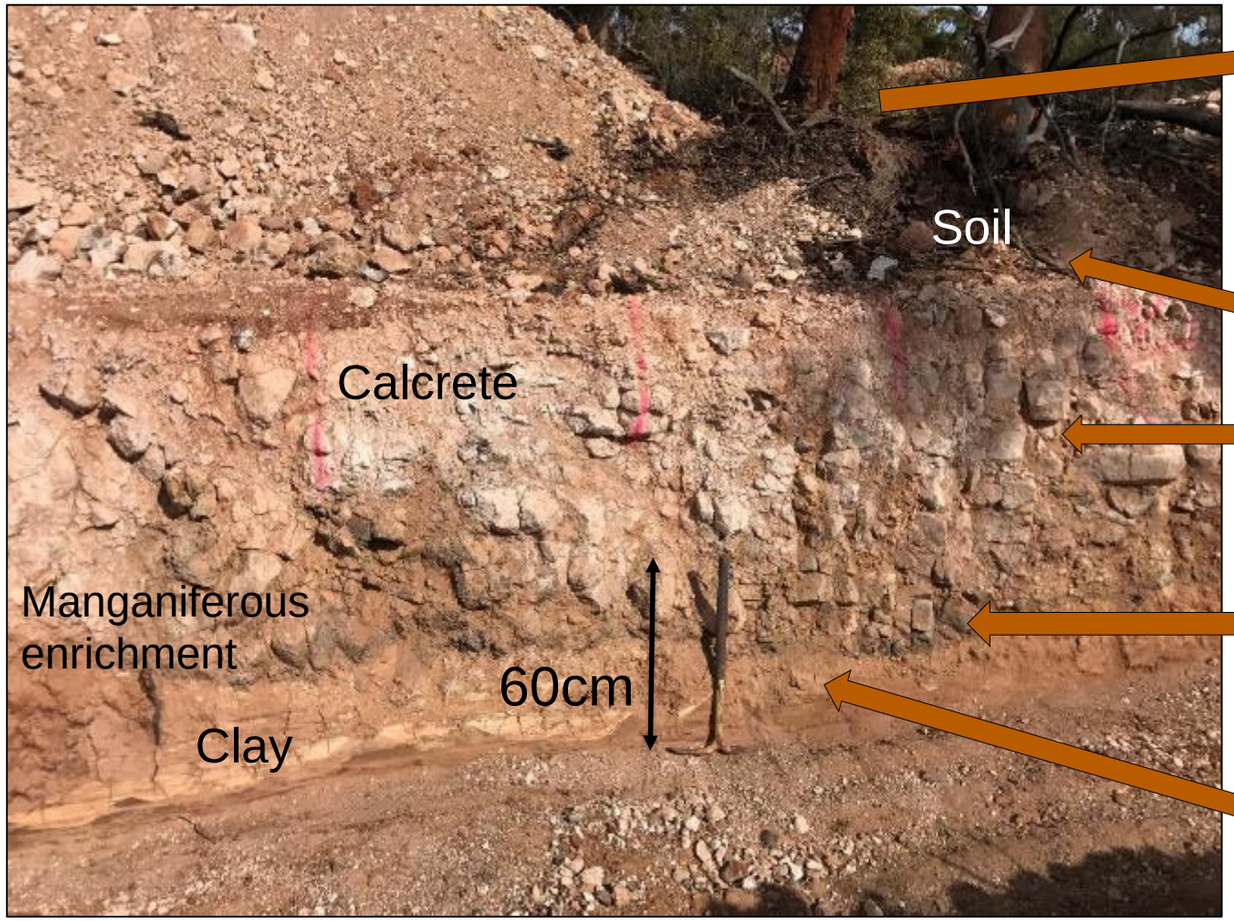
Cover thickness is variable across the Fraser Range rendering many past soil sampling surveys meaningless



Fraser Range Exploration – Regional Greenfields

Soil sampling through thick cover is more than a challenge

1.5m trench above the Nova pan handle



251ppm Cu, 269ppm Ni

1,460ppm Cu, 1,820ppm Ni

10,200ppm Cu, 8,990ppm Ni

678ppm Cu, 648ppm Ni

Fraser Range Exploration – Regional Greenfields

2017/18 Aircore Drilling Program

- Most BOH samples represent various types of felsic to intermediate gneisses. However:
  - Several mafic and ultramafic rock types have been intersected across the belt this year, some with 3 phase Ni-Cu-S
  - Alteration consistent with hydrothermal alteration has been noted in some drill holes

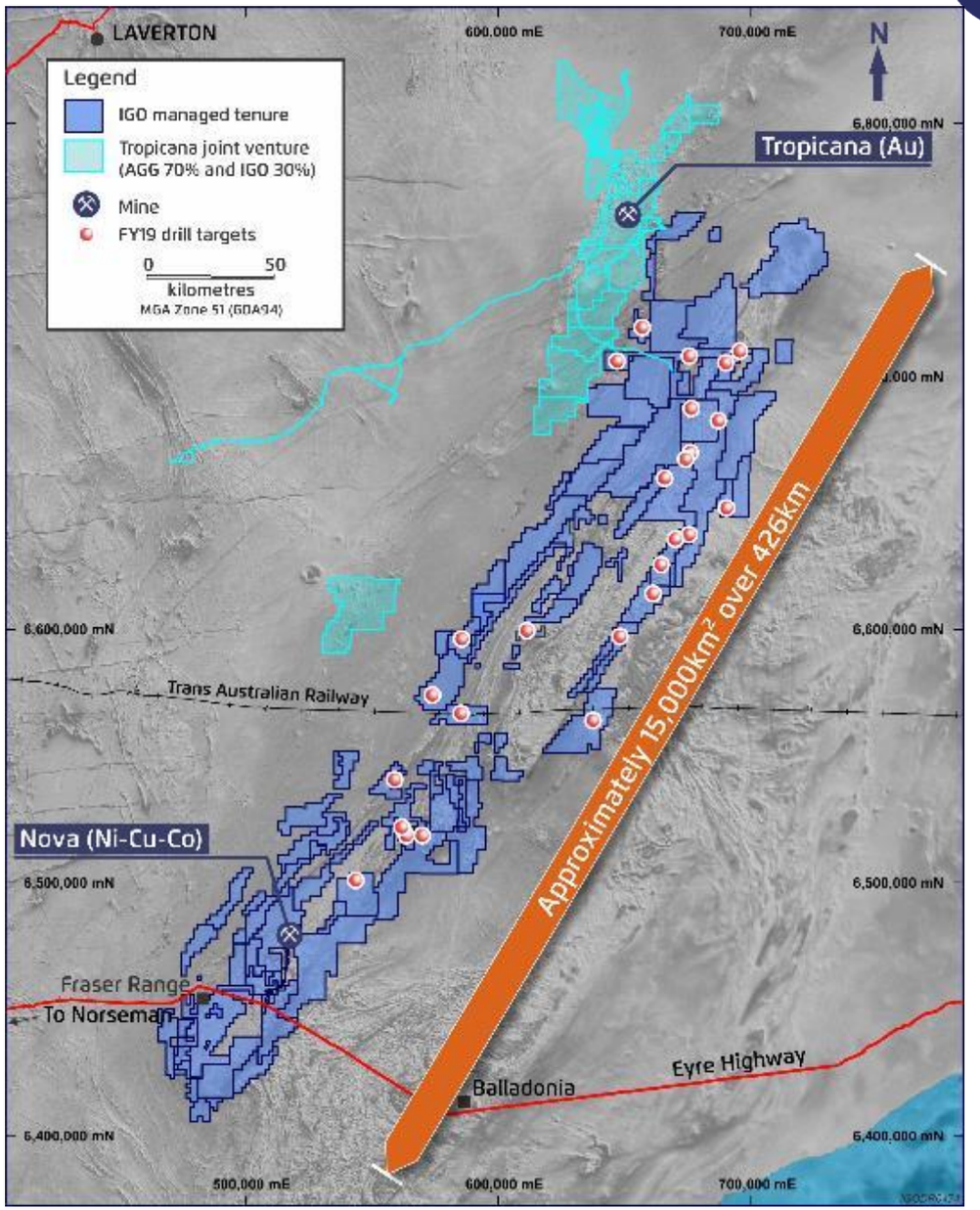
2018 examples of (from left) mafic granulite, Cu-Ni sulphides in gabbro, olivine websterite containing elevated Cr and fuchsite containing >1% Cr in some of the AC drill holes.

Fraser Range Exploration – Regional Greenfields

Aircore Drilling Geochemical Anomalies

The following require follow up in FY19

- Pike: Coincidental Zn-Cu-Te-Au-Mo
- Ecliptic: Strong Cu-Ni-Co-Pt anomaly
- Anaconda: Six point, 47 – 356ppb Au anomaly,
- Porpoise: Strong Co-Zn anomaly,
- Whiting: Strong Zn-Co anomaly,
- Red Herring: Strong Cu anomaly
- Tiger Shark: Coincident Au-Pt-Pd-Cu
- Sailfish: Coincident Ni-Pt-Pd-Co-Zn
- King George: Three point Au anomaly
- Mike: Cu-Zn-Au-Ag trend with coincident EM anomalies
- Angel: Multi-point Cu-Zn-Au anomaly

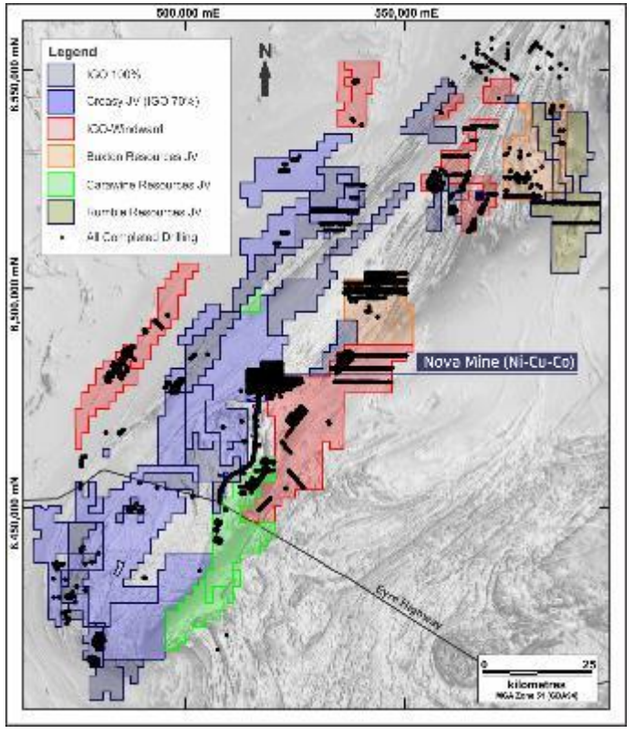


Fraser Range Exploration – Regional Greenfields

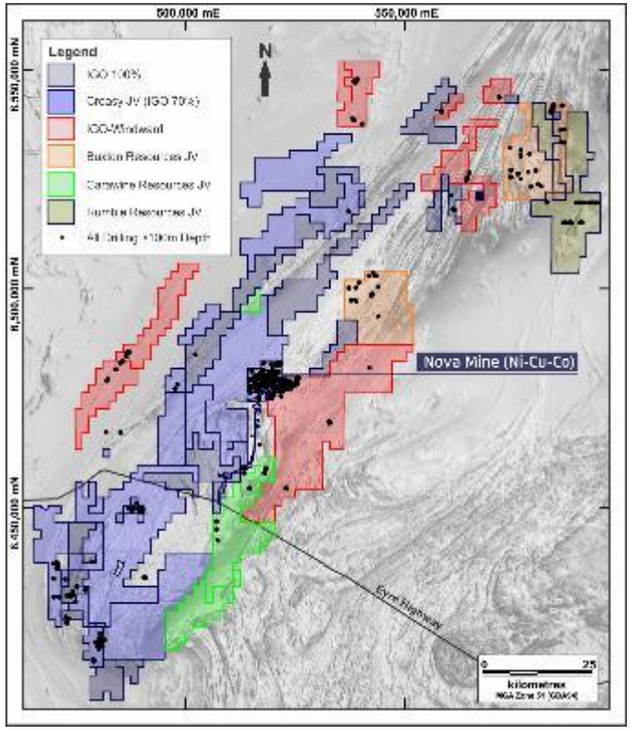
The timing of the Nova discovery has resulted in almost no penetrative exploration since 2012

- New frontier with exploration focus only after Nova discovery in 2012
- Past exploration has been limited due to discontinuous land positions held by underfunded juniors at the bottom of commodity price cycle
- Less than 7% of previous drill holes are deeper than 250m
- IGO is completing greenfields exploration in brownfields environment that has significant opportunity for discovery

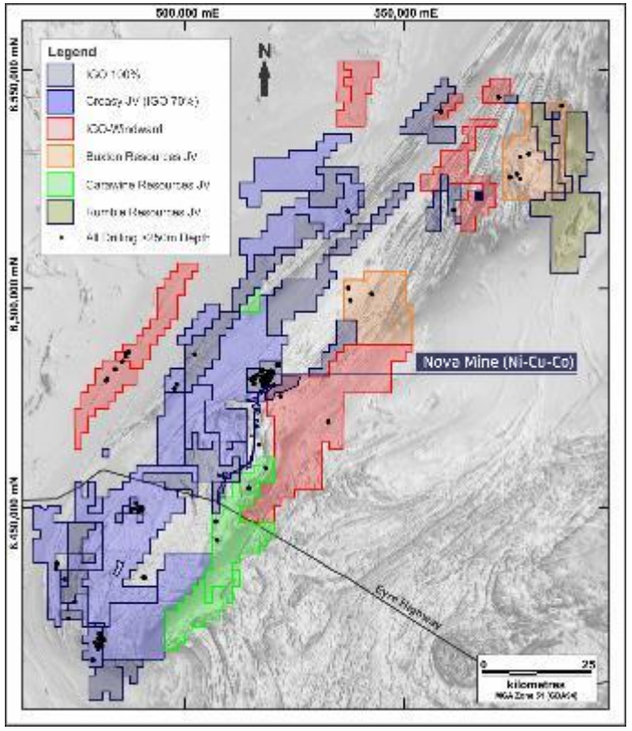
All Drilling



Drilling >100m Depth



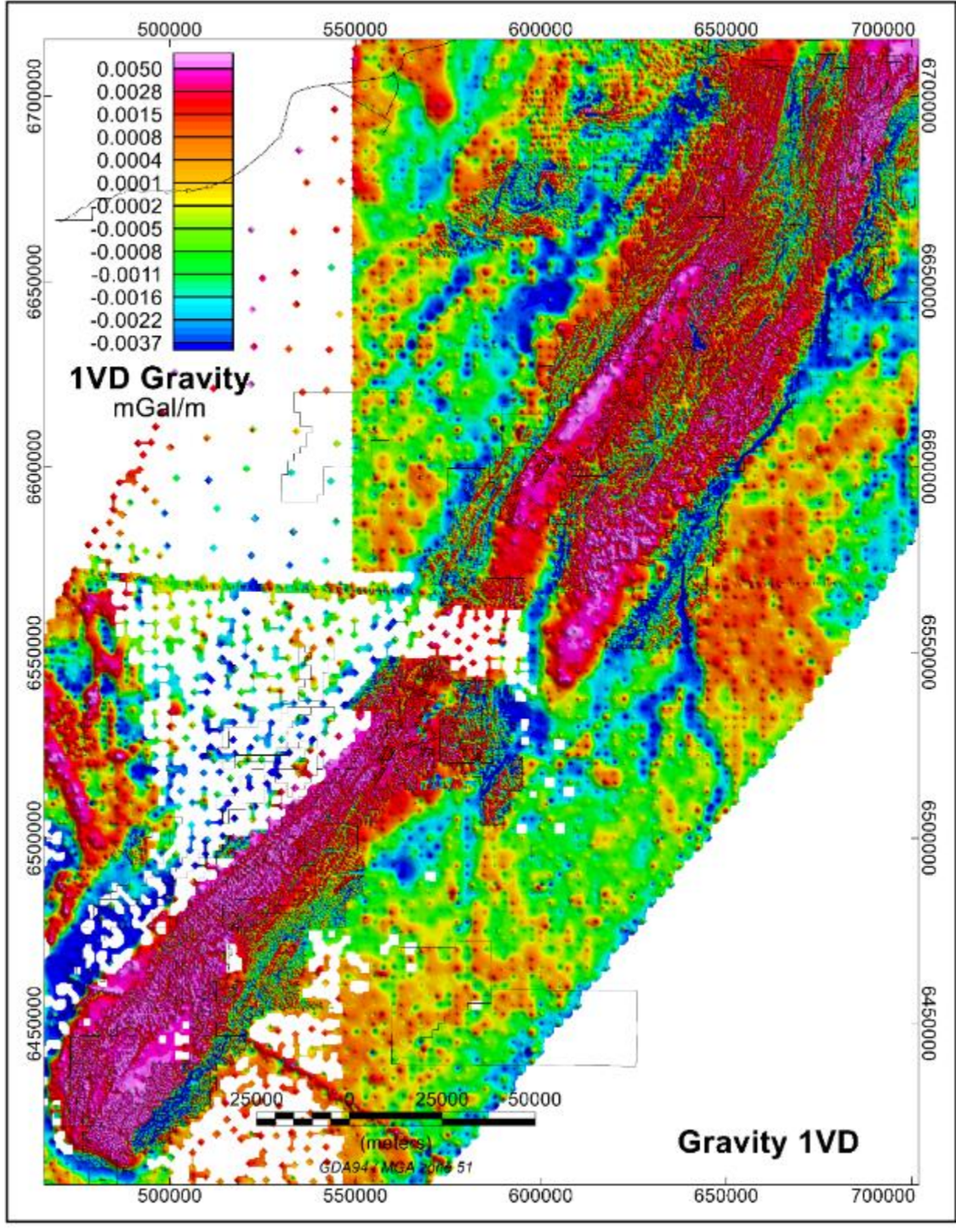
Drilling >250m Depth



Fraser Range Exploration

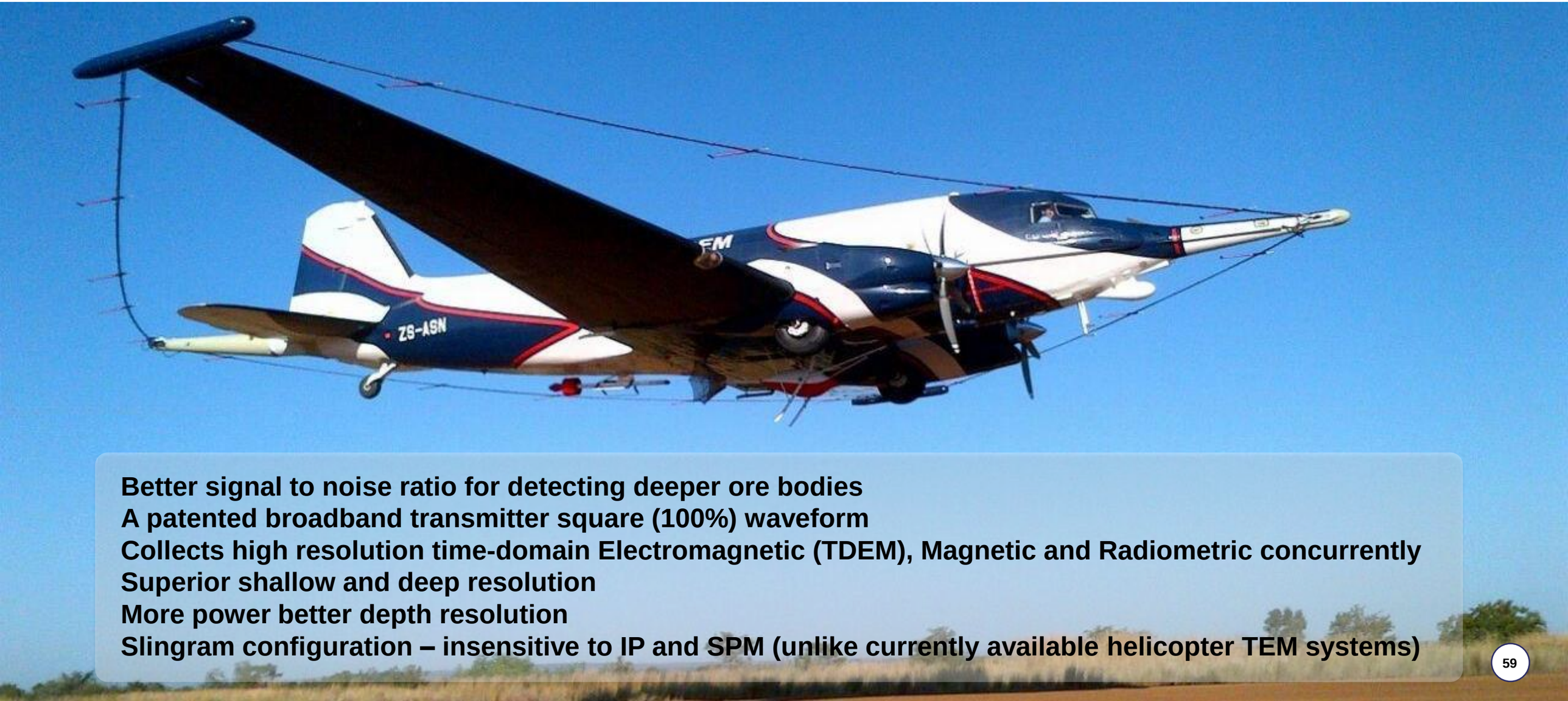
Gravity Data acquisition AFO

- Close spaced gravity survey is now complete covering >60% of entire AFO
- Data is starting to be incorporated into 3D models and targeting programs
- IGO has inhouse capability for 3D modelling of potential field data (gravity and magnetics)
- The gravity and magnetic data will be primarily used for defining the mafic and ultramafic units, structural mapping and for targeting where local magnetic/density effects are observed



Fraser Range Exploration – Regional Greenfields

Spectrem Air engaged by IGO to directly detect massive sulphide and aid with mapping

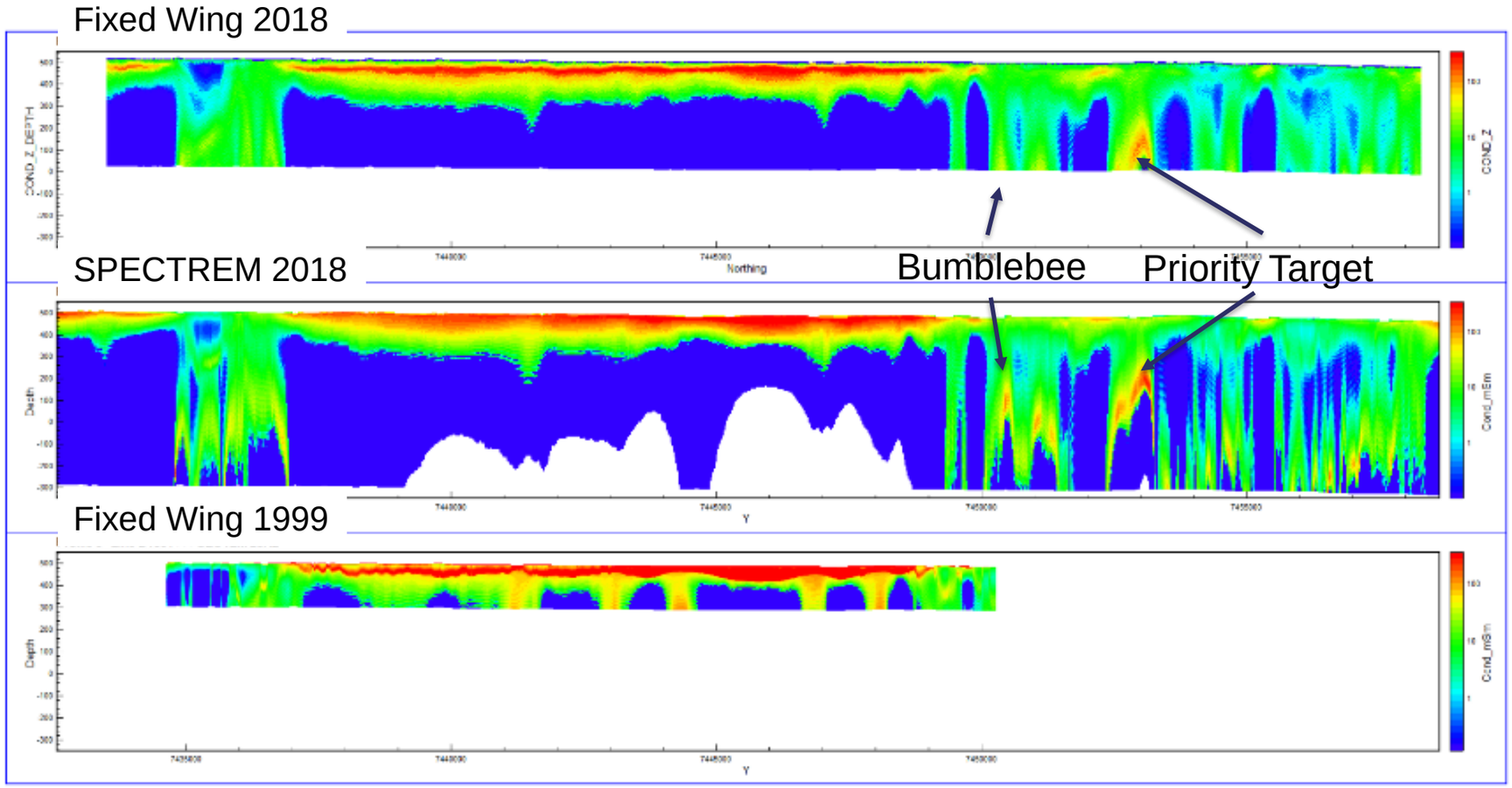


Better signal to noise ratio for detecting deeper ore bodies
A patented broadband transmitter square (100%) waveform
Collects high resolution time-domain Electromagnetic (TDEM), Magnetic and Radiometric concurrently
Superior shallow and deep resolution
More power better depth resolution
Slingram configuration – insensitive to IP and SPM (unlike currently available helicopter TEM systems)

Spectrem Lake Mackay Orientation Survey

Airborne Electromagnetic Survey

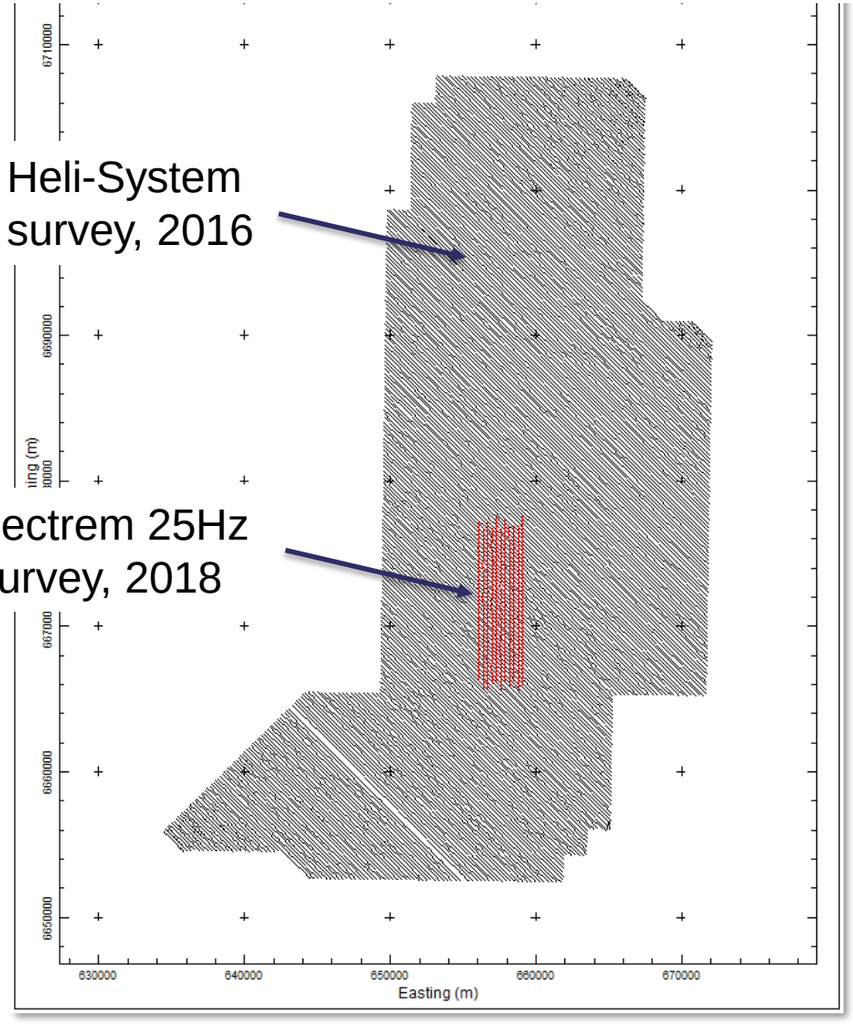
- SPECTREM orientation surveys flown on IGO tenements at Lake Mackay and Albany Fraser Range
- Data has been compared against other leading AEM platforms
- The 588400E line at Lake Mackay has data for a fixed wing platform flown in 1999, SPECTREM in 2018 and a fixed wing platform flown in 2018
- This shows the extra depth penetration and resolution achieved with SPECTREM

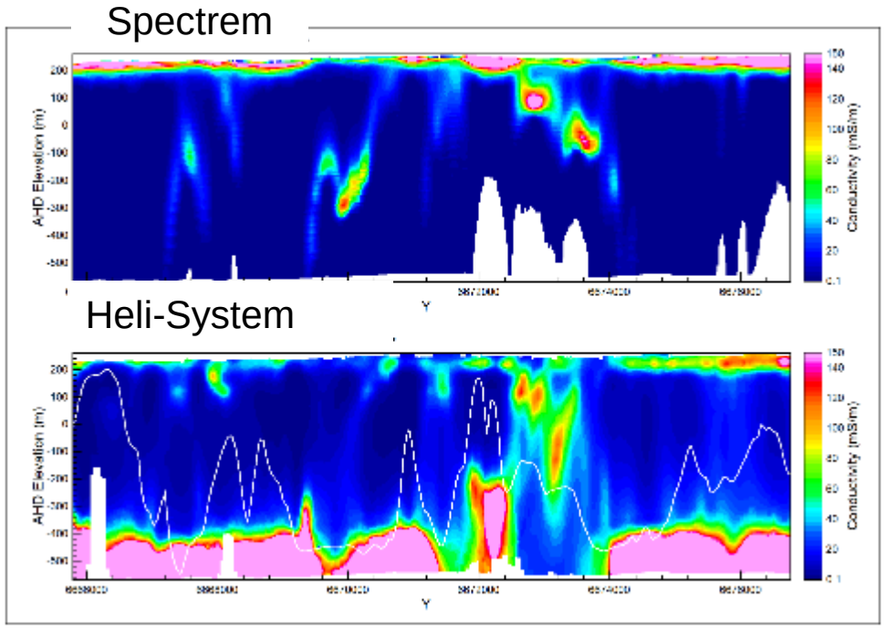


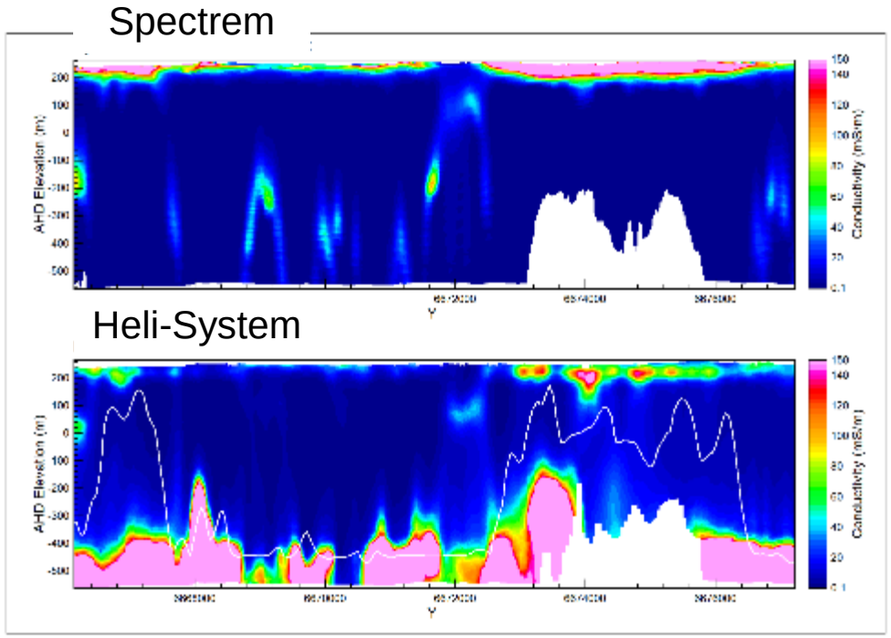
Spectrem Fraser Range Exploration

AEM Spectrem versus Heli-System

- Orientation survey demonstrates that Spectrem has deeper depth penetration, maps the regolith with more detail and identifies more basement conductors



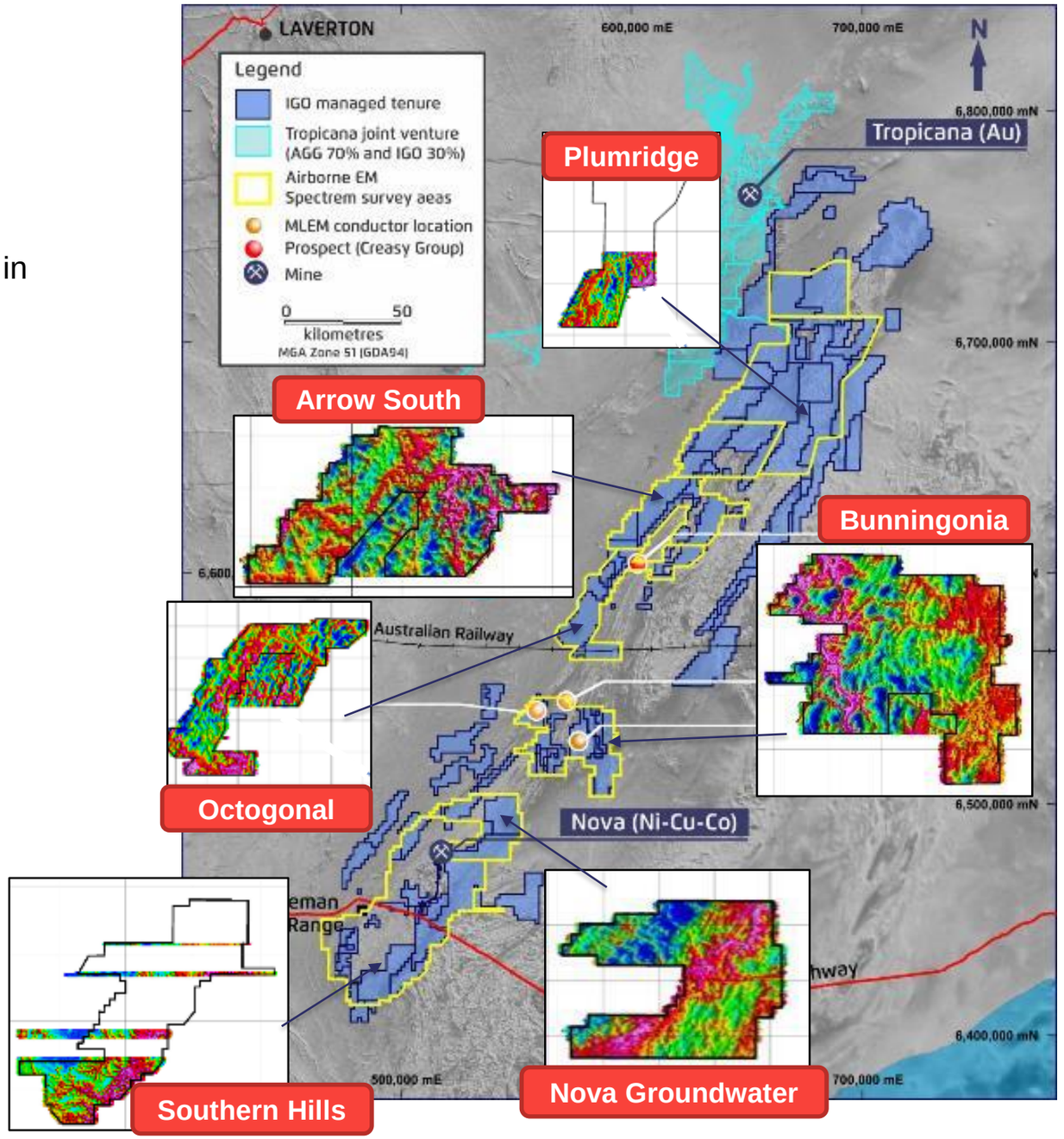




Fraser Range Exploration

Spectrem update

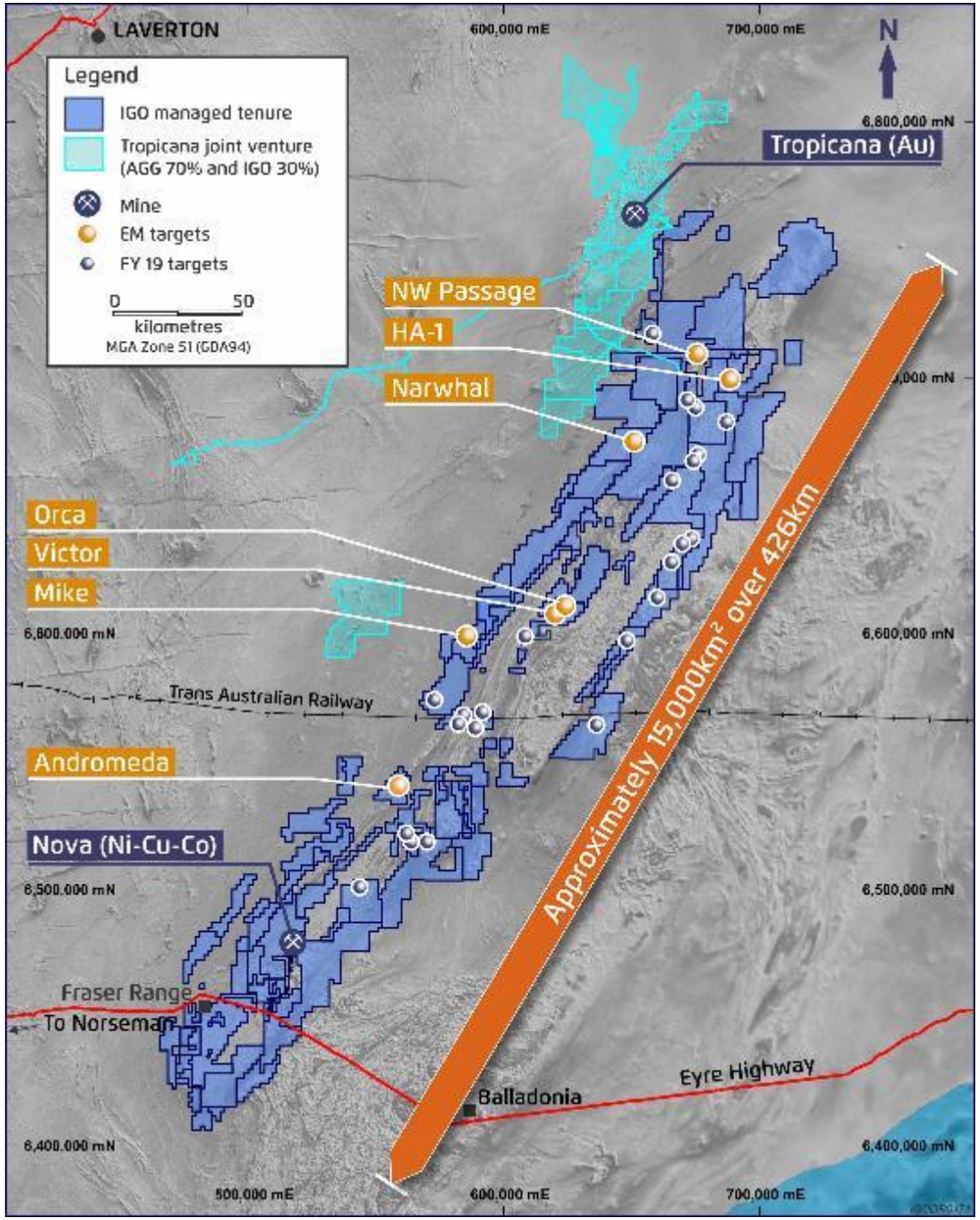
- 25,051 line km completed to mid-May, 2018
- Spectrem currently at Lake Mackay
- Poor weather in summer and fog during May has resulted in slower than expected production rates
- 21,600 line km still required to complete the survey



Fraser Range Exploration – Regional Greenfields

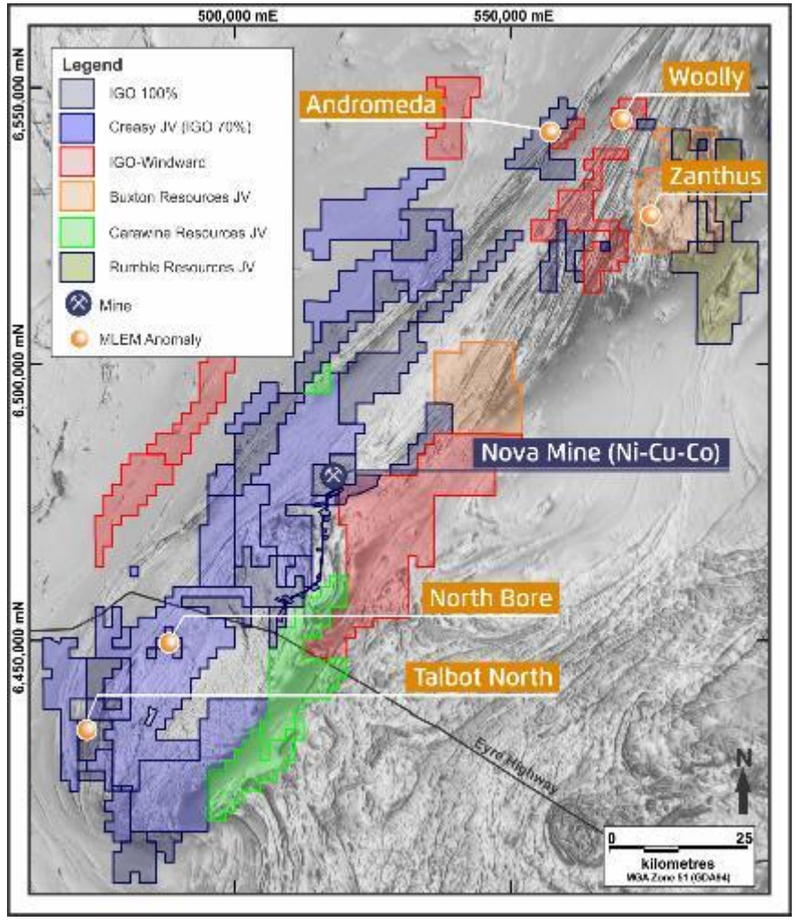
Moving Loop EM targets

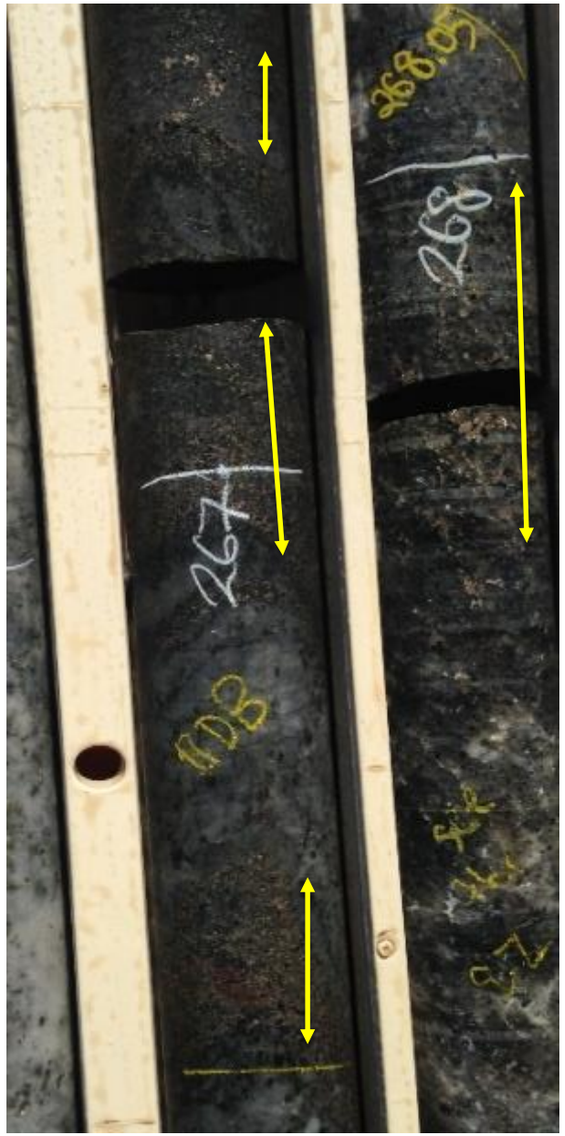
- Three EM teams working targets in the Fraser Range
- Each team has a designated purpose
- IGO inhouse fluxgate used to follow up Spectrem AEM targets
- High temperature SQUID system used to cover prospective areas covered by thick paleochannels
- Low temperature SQUID system used to explore near-mine environment for massive sulphides ~1,000m deep
- This method has identified multiple anomalies that require follow-up by drilling
- Five targets drilled to date have intersected sulphide in each drill hole



Fraser Range Exploration – Regional Greenfields

Zanthus





Zanthus – Buxton Resources JV:

- 18AFRD001 targeted IGO plate ZRC095_A_4200S
- Intersected 15m of 5-10% banded pyrrhotite within metasediments between 256 – 263.2m
- Pyrrhotite bands are 0.5 - 7.0cm thick and occur at 10-30cm intervals. Pyrrhotite occurs as rims surrounding gangue minerals

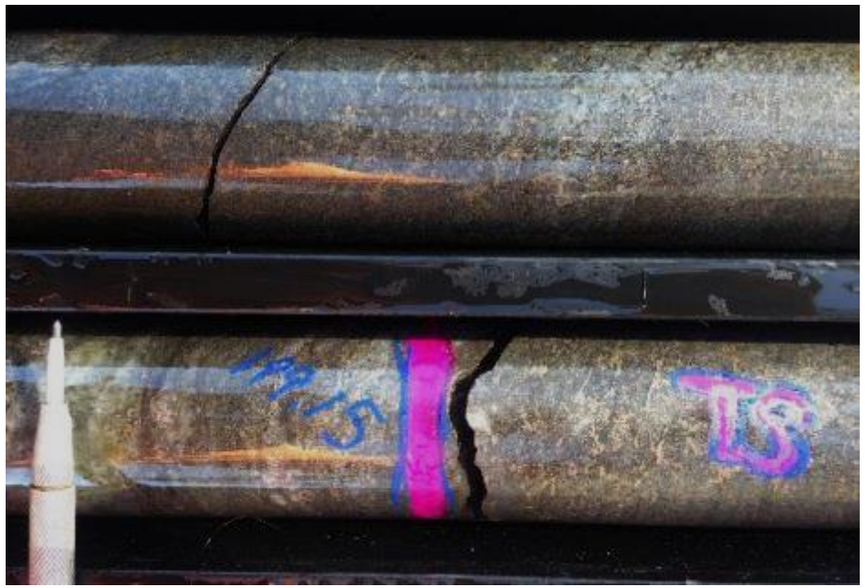
Zanthus: Matrix pyrrhotite at 263m in 18AFRD001

Fraser Range Exploration – Regional Greenfields

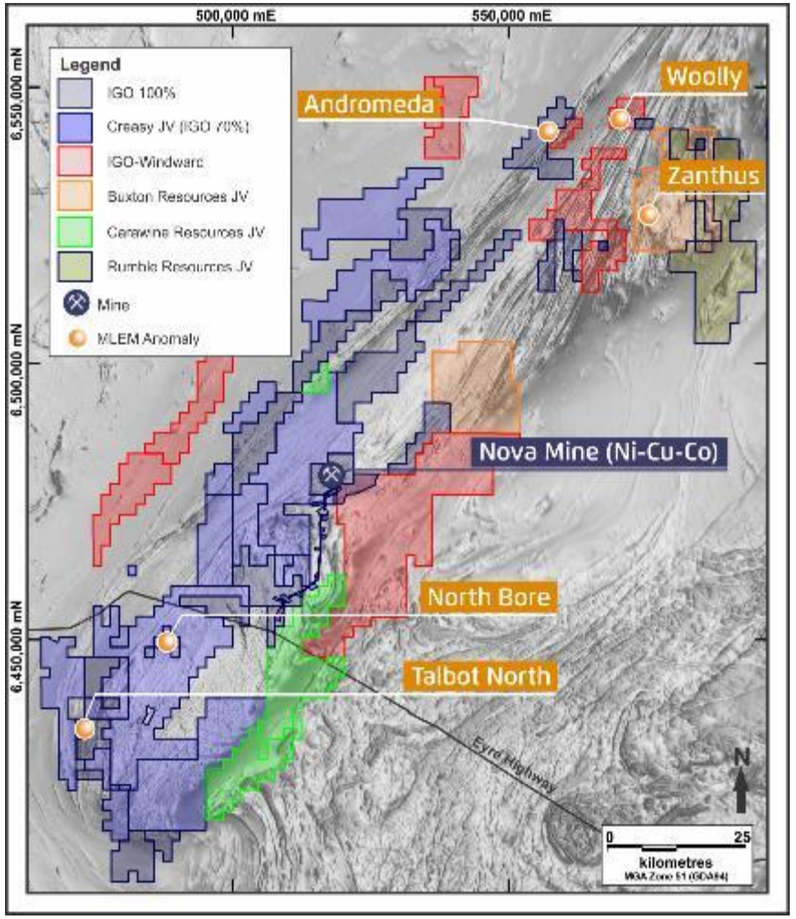
Woolly

Woolly – Ponton (Creasy) JV:

- DDH 18AFRD003 drilled to test the Wooly_4kS conductor
- A 70m zone of blebby and stringer pyrrhotite within qtz>gt>bt meta-sediment intersected. Interpreted to be a sedimentary source
- The pyrrhotite abundance ranges from 5-25% Po



Pyrrhotite stringers in banded metasediments (18AFRD003)



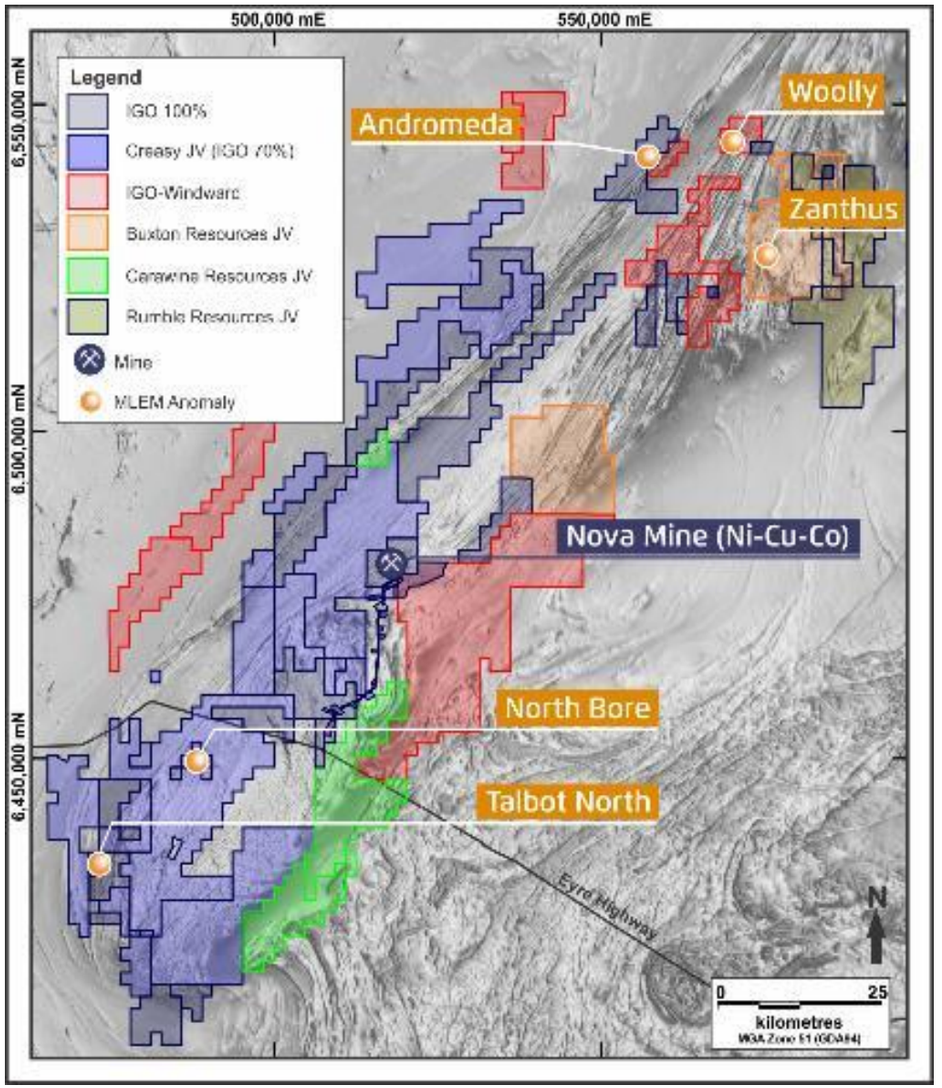
Fraser Range Exploration – Regional Greenfields

North Bore

North Bore – FraserX (Creasy) JV:

- Drill hole 18AFRD005 tested an 80x80m, 5000S off hole conductor identified after the 2016 RC program
- Multiple narrow bands of pyrrhotite and trace chalcopyrite occur within an exhalative BIF horizon

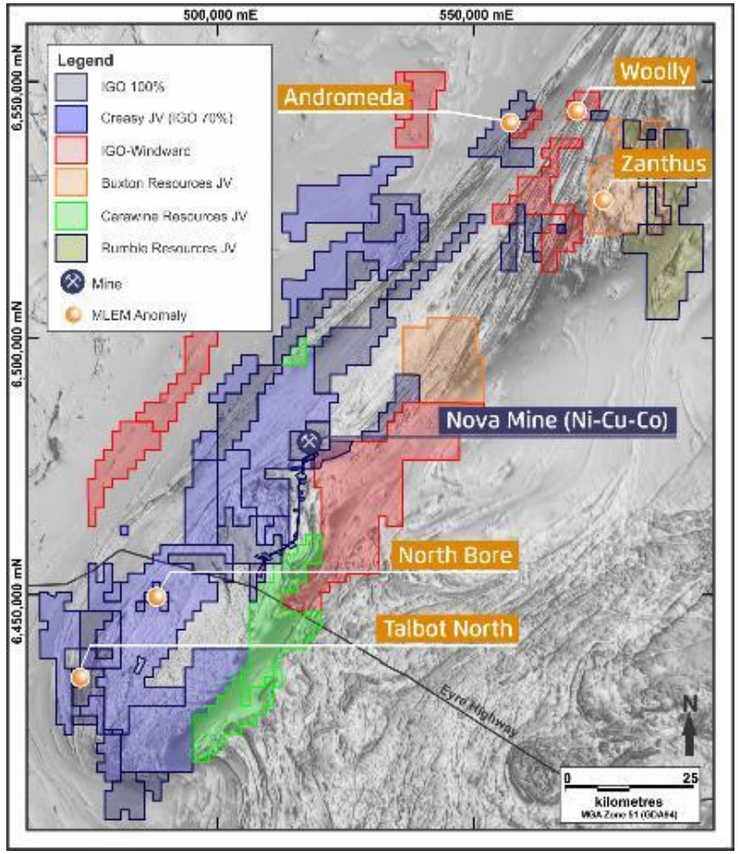
Po-filled breccia in mafic granulite

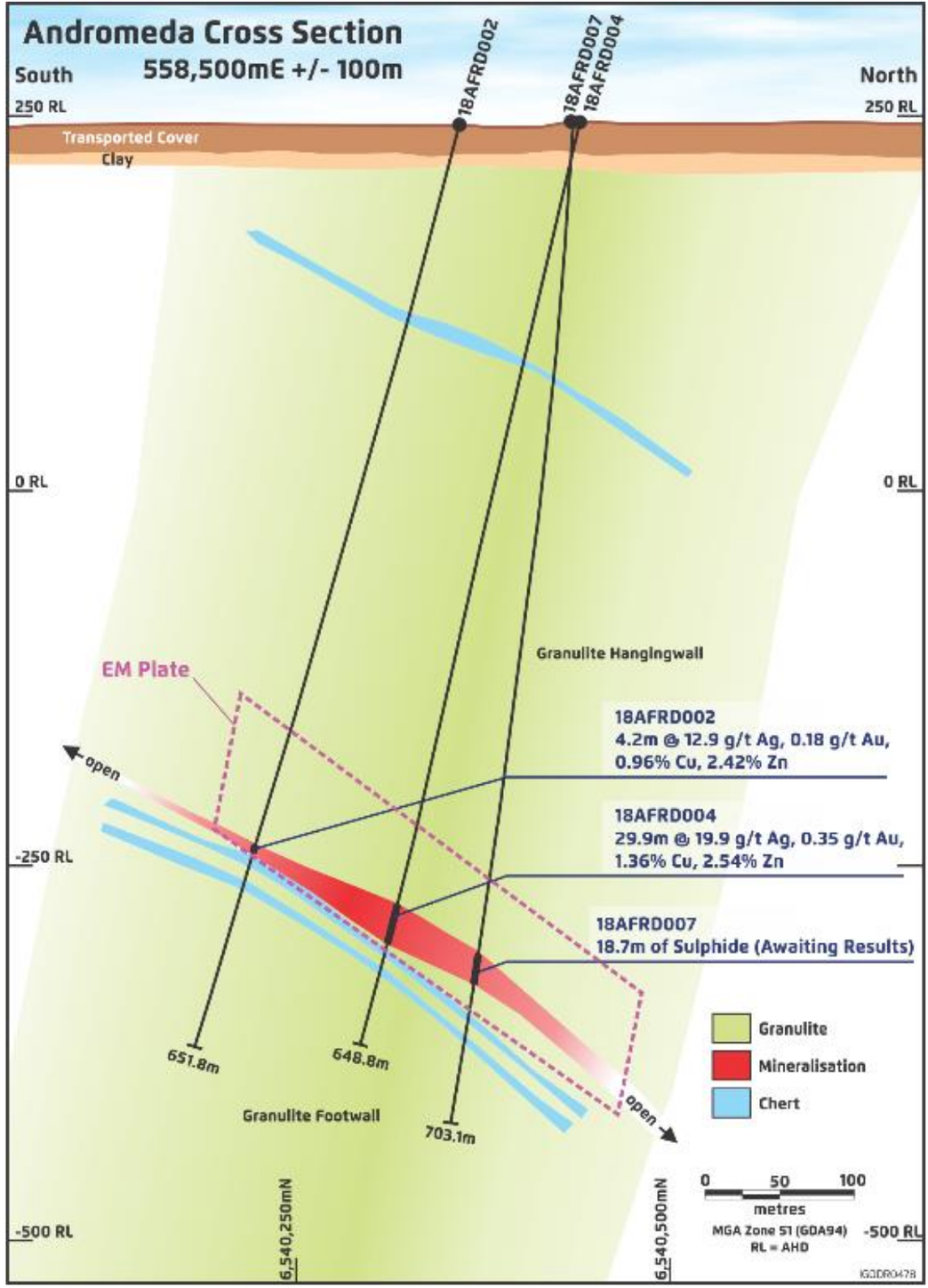


Fraser Range Exploration

Andromeda Cu-Zn Discovery

- 18AFRD002 tested conductor Andromeda_4kS and intersected:
  - 4.2m of pyrrhotite>pyrite>chalcopyrite>sphalerite assaying 0.96% Cu, 2.42% Zn, 13ppm Ag and 0.2ppm Au
  - Drill hole 18AFRD002 is a GSWA EIS co-funded drill hole





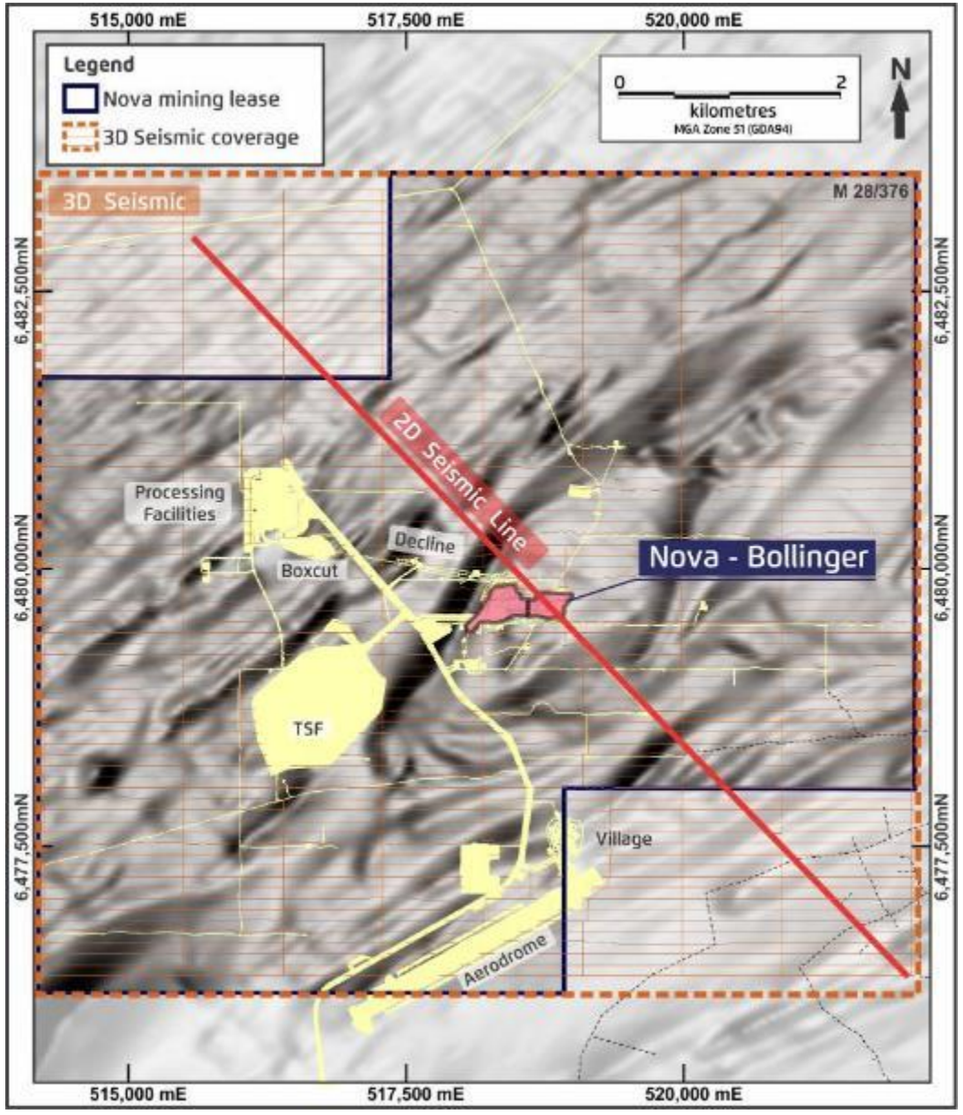
Andromeda Cu-Zn Discovery

18AFRD004 Massive Sulphide Intersection measuring 29.9m

29.9m @ 1.36% Cu, 2.51% Zn, 0.35g/t Au and 19.9g/t Ag

Nova: near mine exploration

Project Overview



Snapshot

- 46.7km^2 tenement hosting Nova-Bollinger Ni-Cu deposit
- Recently completed 58km^2 3D seismic survey
- Limited deep diamond drilling outside of the Nova-Bollinger resource
- Historic ground EM has not been definitive (SAMSON, Fluxgate)
- All surface geochemical anomalies have been followed-up
- Opportunities for mineralisation now lie at depth (>300m)

Strategic Objective

- Find repetitions, extensions and satellite deposits to feed mill at Nova

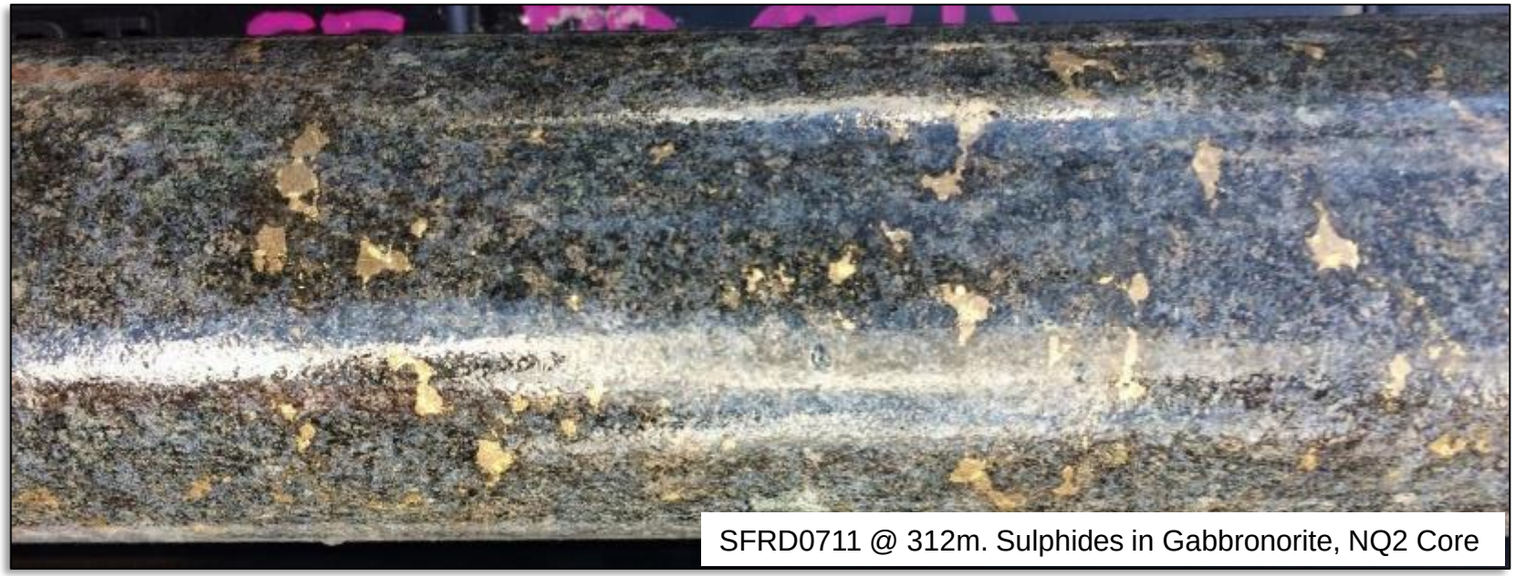
Operational Plan FY19

- Complete reassessment of camp-scale geology using historic drilling, new datasets (3D Seismic) and industry specialists.
- Complete 20,000m of DDH drilling from surface and underground
- 5,100 whole rock geochemical analyses of new and historic drill holes
- 330 days of detailed LT SQUID EM surveying across ML and surrounding tenements
- Complete AMT survey to compliment 3D seismic and SQUID surveys

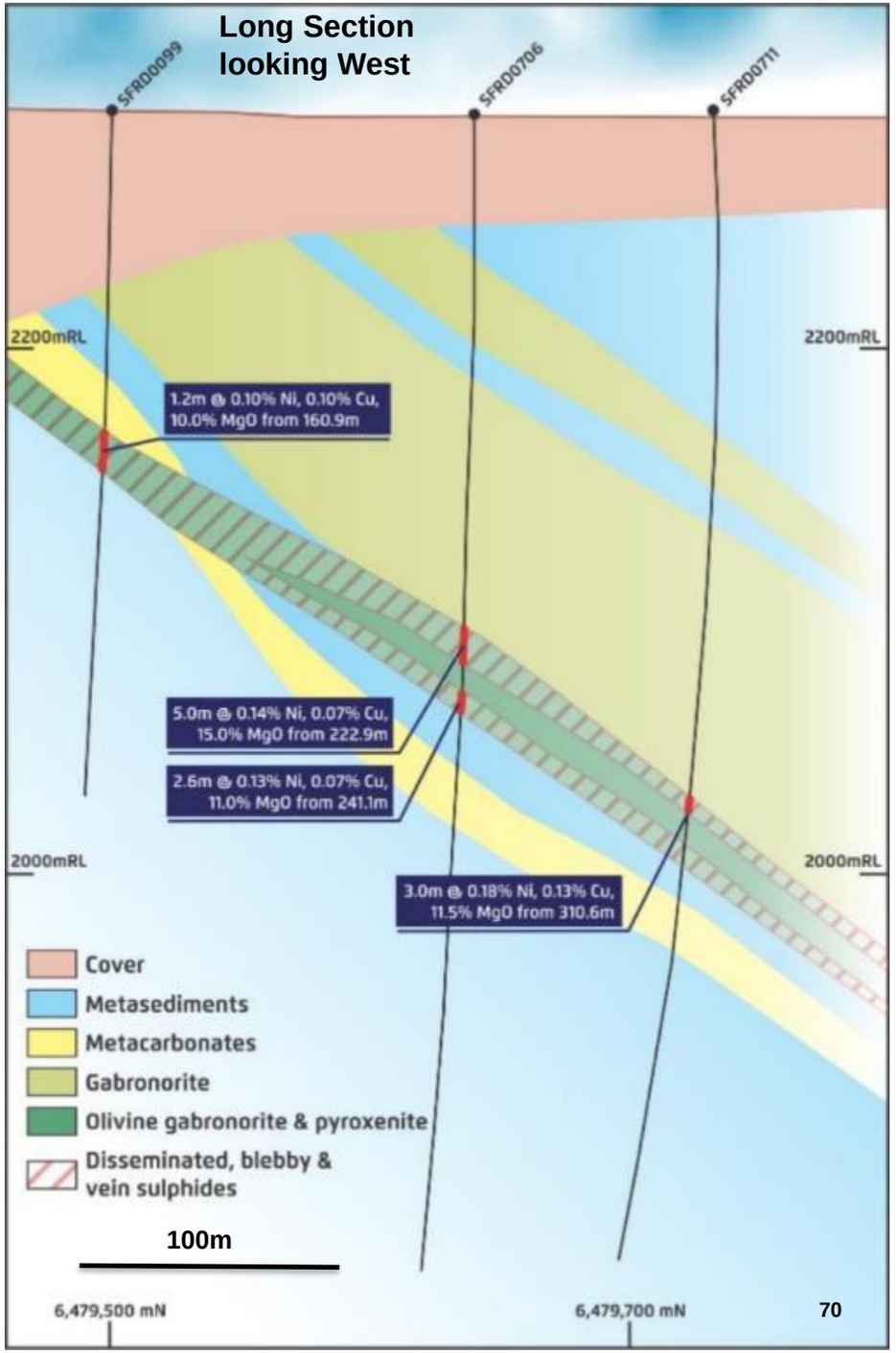
Nova: near mine exploration

Phoenix Prospect update

- Four DDH intersections define a mafic intrusion ~150m thick comprising multiple mafic units
- The intrusion appears to define a north plunging, pipe-like geometry
- The intrusion is hosted in Snowys Dam Formation metasediments
- The basal unit contains 3-phase magmatic sulphides with grades up to 3m @ 0.18% Ni, 0.13% Cu & 11.5% MgO
- No massive sulphides intersected nor detected by DHEM to date
- Currently drill testing this mineralised intrusion from under ground



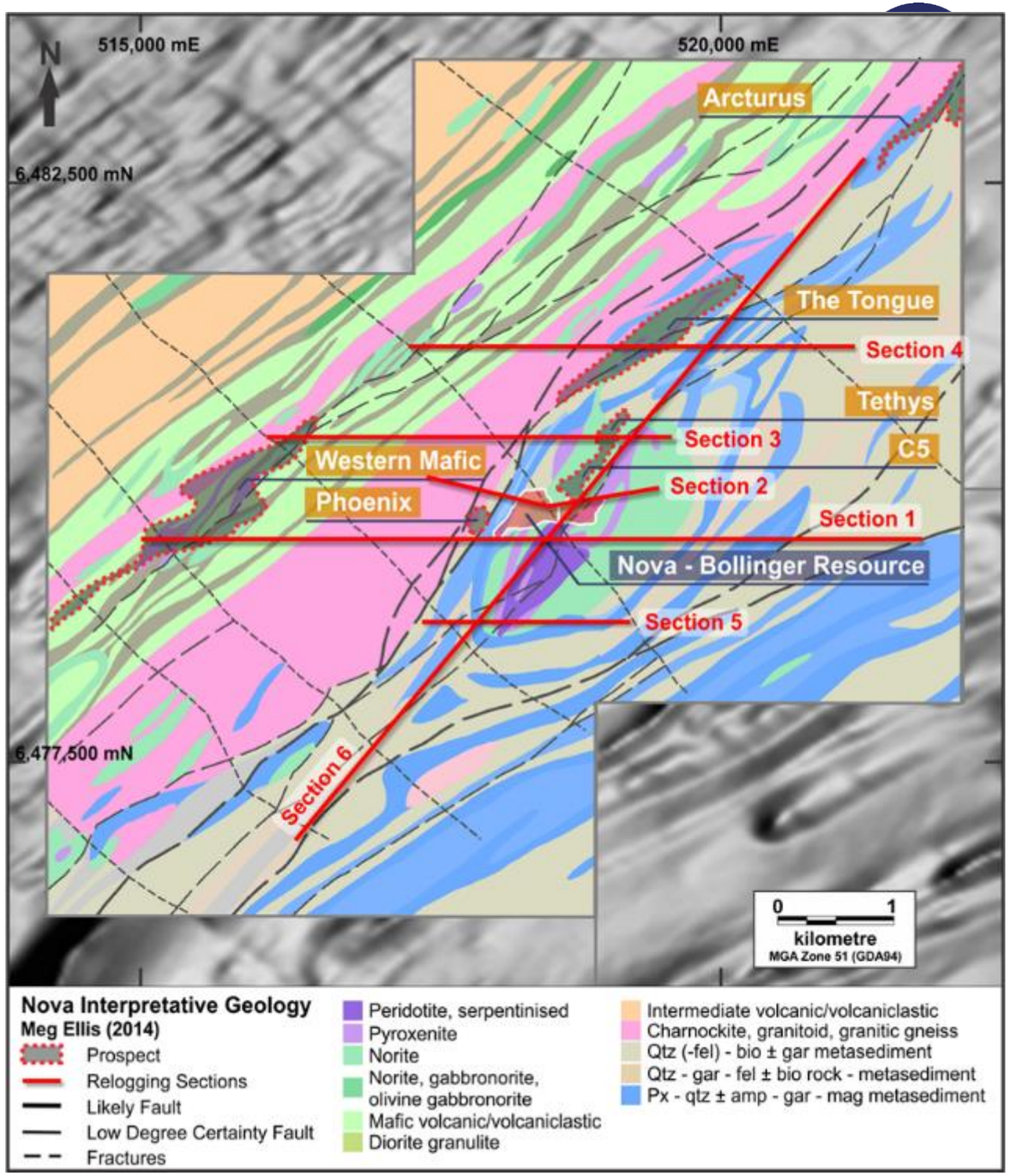
SFRD0711 @ 312m. Sulphides in Gabbronorite, NQ2 Core



Nova: near mine exploration

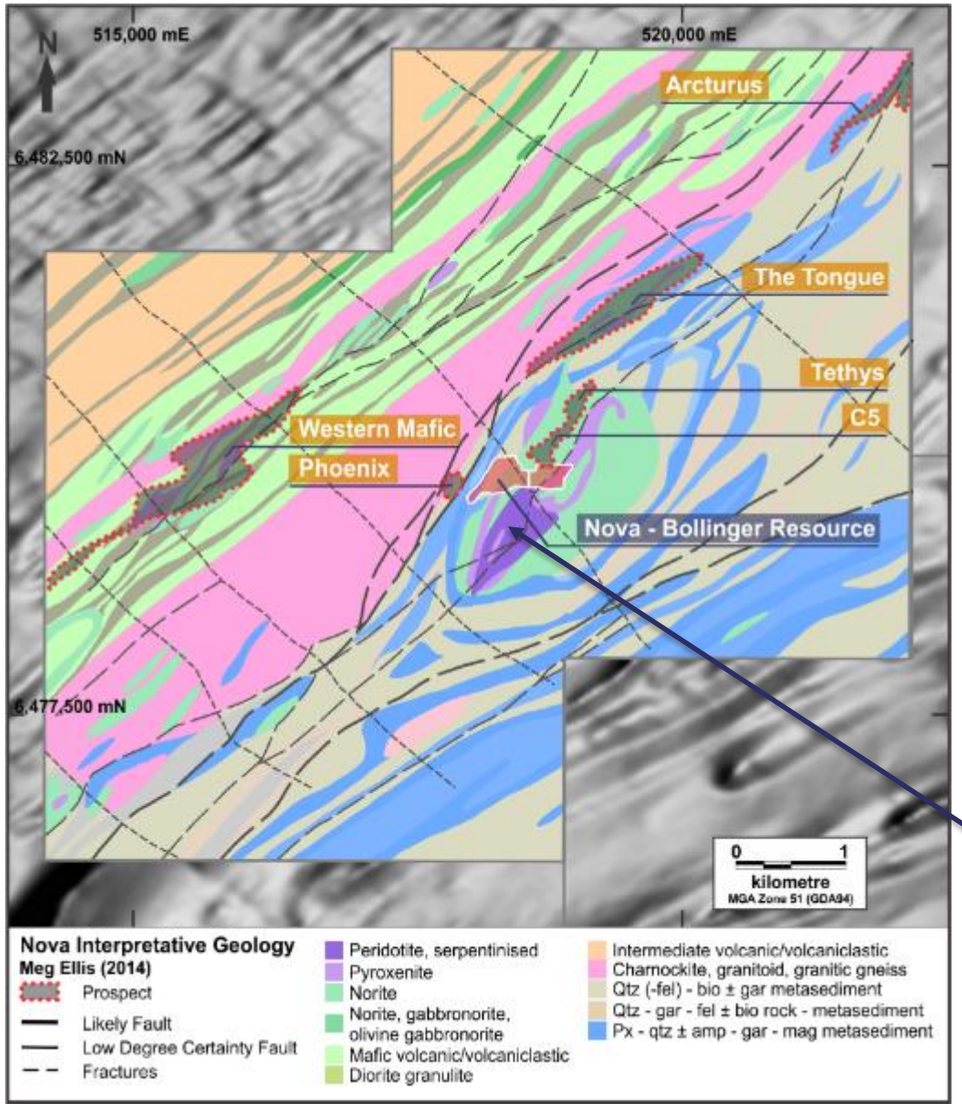
Nova Relogging program – key findings to date

- 56 diamond holes totalling 31,000m across six sections logged by new team for geological, geochemical and petrophysical re-assessment
- Multiple intersections of “Nova-like Gabbro” intrusives have been recognised outside of the current model and require further assessment
- The “Nova Gabbro” appears to dog-leg 120 degrees at Bollinger and head towards the NW (Tethys). This observation opens a significant amount of exploration opportunity
- The ultramafic intrusives at the western mafics are open down-dip and in general have been poorly constrained by drilling. They host disseminated – blebby sulphides and represent a high priority drill target
- Other targets identified or “re-discovered” include: Chameleon, Mars, Tongue, Arcturus, Castor, Vega, Meteor

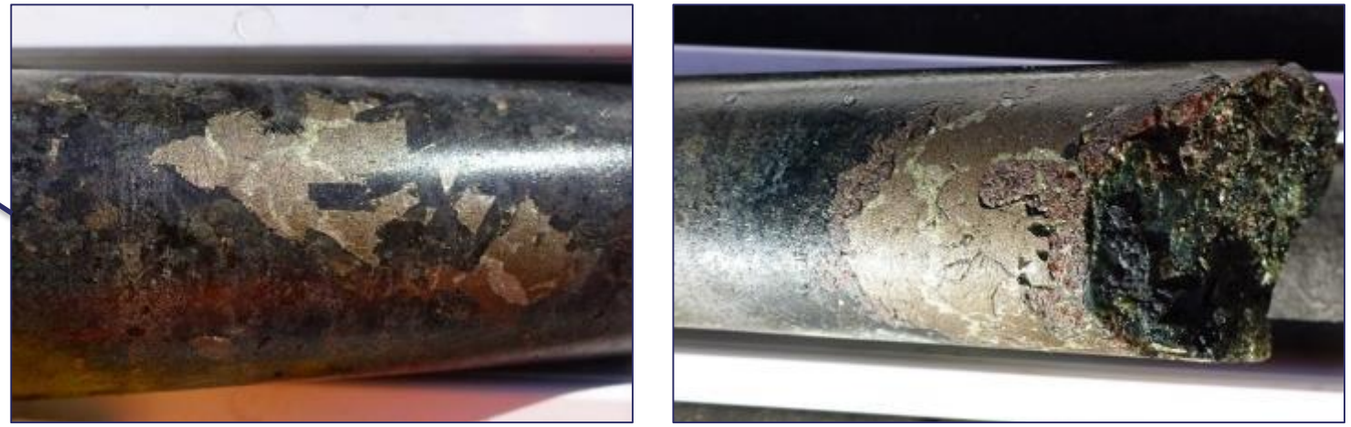


Nova: near mine exploration

Diamond Drilling Project – >20,000m started in July



- >20,000m of drilling underway at Nova:
  - Two rigs currently working from underground and surface
- Drilling will test:
  - targets generated by Sirius that were not followed up prior to acquisition by IGO: e.g. Thethys, The Tongue, Western Mafics, Mars and other orphan Ni-Cu intersections
  - LT SQUID and 3D seismic targets
- 3D Seismic Interpretation underway and generating drill targets
- Low Temperature SQUID EM due to start in September testing for sulphide conductors to ~1000m



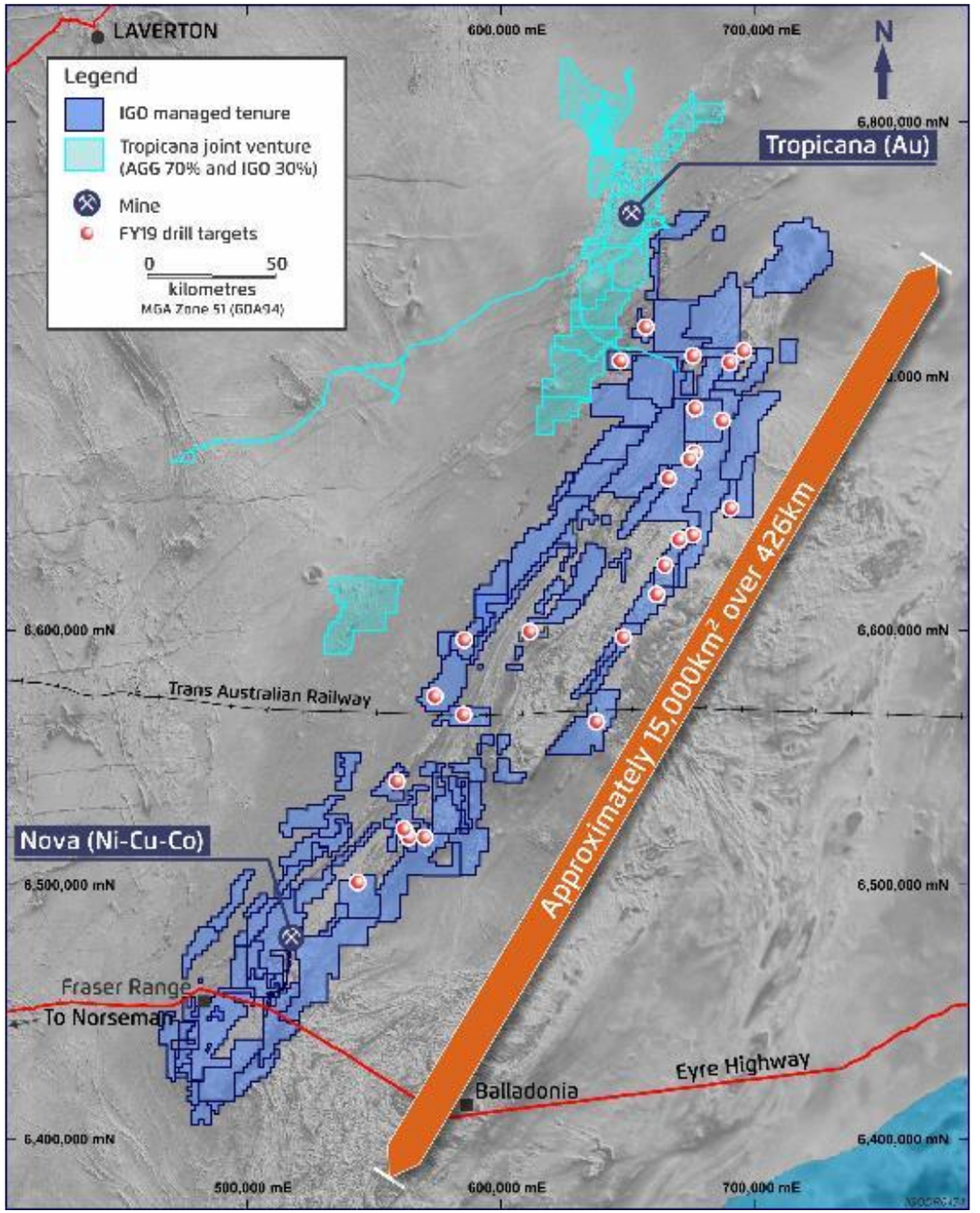
Orphan Ni-Cu intersections in drill hole SFRD0363 located 400m south of Nova

Fraser Range Exploration – Regional Greenfields

Summary of current work program

Currently operating or initiating:

- Three aircore drill rigs, >145,000m drilling completed, another 100,000m to drill in FY19
- One DDH rig currently testing EM targets to 600m
- Spectrem airborne EM survey collecting >45,000km
- Three MLEM crews constantly defining drill targets
- 22 identified RC/DDH drill targets to be tested in FY19
- 58km2 3D seismic data to be interpreted for drill targets
- 20,000m of drilling commencing on Nova ML in July
- Ongoing research on a natural laboratory



Why the Albany Fraser?

The right place, proven deposit potential, highly underexplored

- An exploration team that combines youthful enthusiasm with discovery experience and academic know-how
- An emerging belt on a craton margin with Ni-Cu pedigree
- A belt that:
  - Hosts multiple mafic and ultramafic introductions, several magmatic Ni-Cu sulphide prospects
  - Ranges from under-explored to unexplored
- IGO has positioned itself for discovery by consolidating the dominant tenement package in the area
- A committed budget of $35M to Nova and the Fraser Range aims to fast-track knowledge and discovery
- Knowledge and discovery will come from systematic, belt-scale exploration programs

Summary

Site Visit Summary

Nova and Fraser Range a growth engine for IGO

Strong Outlook for Nova

- Nameplate mining and processing rates exceeded in first year of commercial production
- Current LOM Grade control drilling essentially complete
- De risked FY19 production

Strong Program of Business Improvement

- Budgeted plans to support sustainable 1.8Mtpa run rate
- Metallurgical improvement focus
- Productivity and cost reduction

Growth Opportunities

- Down stream processing of concentrates
- Platform for near mine exploration
- Consolidated 15,000km2 of tenure in under explored belt

Commitment to People and Communities

- Sector leading LTIFR
- Strong local employment focus
- Partnering with traditional owners
- Engaged in our local communities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