



# Macraes Operation

Analyst Site Visit

### **Cautionary & Technical Statements**



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#### Technical Disclosure

The exploration results were prepared in accordance with the standards set out in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves' ("JORC Code") and in accordance with National Instrument 43-101 – Standards of Disclosure for Mineral Projects of the Canadian Securities Administrators ("NI 43-101"). The JORC Code is the accepted reporting standard for the Australian Stock Exchange Limited ("ASX"). For further scientific and technical information (including disclosure regarding mineral resources and mineral reserves) relating to the Haile Mine, the Macraes Mine and the Didipio Mine please refer to the NI 43-101 compliant technical reports available at sedar.com under the Company's name.

#### **General Presentation Notes**

- All AISC and cash costs are <u>net of by-product credits</u> unless otherwise stated
- All financials are denominated in <u>US Dollars</u> unless otherwise stated



# **INTRODUCTIONS & AGENDA**



### Agenda



8:00 AM	Welcome/Introductions & Safety Induction		
8:15 AM	Macraes Overview Presentation		
10:15 AM	Open Pit and Exploration Site Tour		
12:30 PM	Enviro/Community/Process Plant Presentations (Working Lunch)		
2:00 PM	Process Plant Tour		
3:00 PM	Wrap Up Session		
3:30 PM	Leave Mine Site (Dunedin Airport via Middlemarch)		
6:05 PM	Fly to Auckland		

# **Macraes Management Team**



Dale Oram	Knowell Madambi	Ash O'Hallaron
General Manager & Snr Site Executive	NZ Technical Services Manager	Health, Safety & Training Manager
<ul> <li>Over 37yrs industry experience</li> <li>Geologist and Mining Manager with extensive open pit and underground operational experience</li> <li>Worked extensively in Australia and New Zealand</li> </ul>	<ul> <li>Mining Engineer with 25yrs industry experience</li> <li>Significant African and Australasian experience</li> <li>Broad operational experience in underground and open pit gold, coal, diamond, copper, uranium, iron ore mines.</li> <li>Worldwide mining consulting experience</li> </ul>	<ul> <li>20yrs industry experience</li> <li>10yrs health and safety management</li> <li>10yrs risk management experience</li> </ul>
Matt Mengel	Justin Johns	Craig Fawcett
Frasers Underground Manager	Process Plant Manager	Open Pit Mine Manager
<ul> <li>Mining Engineer with 25yrs industry experience</li> <li>BSc IT programming</li> <li>Australasian experience within alluvial, open pit and underground mines including iron ore, gold, copper and lead commodities</li> <li>Project development and operational management experience</li> </ul>	<ul> <li>Metallurgist with 25yrs industry experience</li> <li>Multi commodity experience across various hydrometallurgical processes</li> <li>Significant experience with plant commissioning and circuit optimisation. Commissioned first refractory gold Autoclave in Australia</li> </ul>	<ul> <li>Over 20yrs multinational industry experience</li> <li>Qualified Geologist and Mining Engineer</li> <li>Underground and open pit management experience</li> </ul>
Lisa Mills	Richard Ozga	Gavin Lee
Human Resource Manager	Commercial & Finance Manager	Community & Environment Manager
<ul> <li>18yrs experience in organisational development and generalist human resource roles</li> <li>Significant experience within private and public sectors overseas and in New Zealand</li> </ul>	<ul> <li>12yrs experience in audit and financial management roles across Australia and New Zealand</li> <li>3yrs industry experience driving sustainable financial performance improvements across OGNZL operations</li> </ul>	<ul> <li>20yrs environmental/social impact management in the resource sector</li> <li>Project development, construction, operations and closure experience across Australia and South East Asia</li> <li>Proven ability to formulate and implement appropriate environmental/social policies</li> </ul>

### Respect • Integrity • Teamwork • Innovation • Action • Accountability



# **SAFETY INDUCTION**



# **Visitor H&S Induction**

# 

### All visitors must:

- Wear all appropriate PPE (as provided)
- Remove all finger rings
- No smoking
- Remain with your OceanaGold host/escorts at all times
  - » Do not wander off
- Be aware of Slip/Trip or Fall opportunities
  - » Walking Surfaces
  - » Changing Ground Conditions
- Obey all signage and rules
- Seat belts must be worn on mine site
- Photographs can be taken with permission of host

### **Emergency Response Procedures**



In case of an emergency, remain with your OceanaGold host/escorts and follow all directions given

- Notify OceanaGold host/escorts of incidents or injuries immediately
- Contact information:
  - From external mobile: 03 479 4633 **>>**
  - From an internal handset: **>>**
  - From a Macraes Radio: **》**
  - New Zealand Emergency Services **》**

- Extension 4911
- Radio Channel 1
- 1-111



# **NEW ZEALAND**



PRODUCTION				
2017 GUIDANCE				
MACRAES				
Gold (oz)	180,000 — 190,000			
AISC (per oz sold)	\$950 – \$1,000			

### **RESOURCES**<sup>(1)</sup>

MACRAES			
P&P Reserves	Gold (Moz)	1.21	
Total Resources <sup>(2)</sup>	<b>Gold</b> (Moz)	4.79	

1. As at 31 Dec 2016 – refer to www.oceanagold.com

2. Total Resources = M&I and Inferred Resources. M&I Resources are inclusive of reserves

# **Safety Performance**



### **CONTINUALLY STRIVING TO IMPROVE THE SAFETY CULTURE AND PERFORMANCE**

**CHANGING THE CULTURE:** A bottom up program, driven by opinion leaders, to identify and rectify critical behaviours to re-focus on improving safety

**GOLD STANDARD INITIATIVE:** Increasing senior leaders involvement in safety tasks

**EMPLOYEE ENGAGEMENT:** Macraes has retained a strong and inclusive employee commitment to improving safety



### Total Injury Frequency Rate

# **Macraes Strategy**

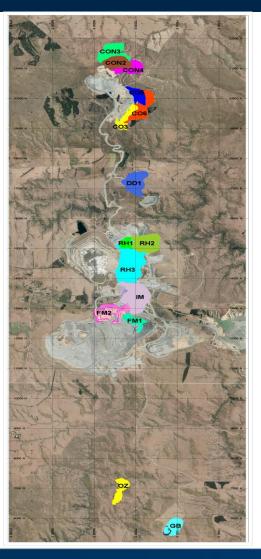


### WORKING TO MAKE MACRAES A LONG LIFE ASSET

**LOM EXTENSIONS:** Our goal is to continue to extend Macraes LOM with value add targets; improve margins through technical studies; review all targets for viability

**INNOVATING TO IMPROVE:** Actively researching mining technology to improve safety; lower costs and improve the economics of marginal orebodies

**SIGNIFICANT POTENTIAL:** There are a number of opportunities that exist to extend Macraes LOM



# **Macraes Orebodies**



### **NEW ZEALANDS LARGEST GOLD PRODUCER; PRODUCED OVER 4.5MOZ SINCE 1990**

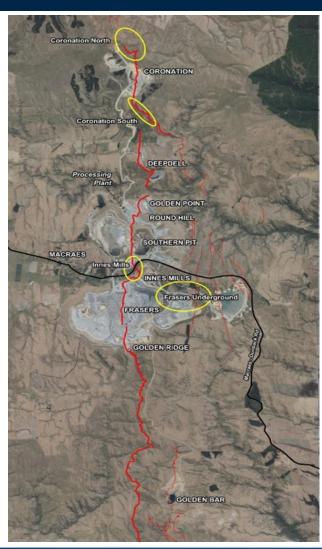
**OPERATING PITS:** FRIM, Coronation, Coronation North and Fraser Open Pit. Average stripping ratio 10:1

**PRODUCTION COMPOSITION:** Frasers Underground supplies ~0.9Mtpa, Open Pit supplies the balance

PROCESS PLANT: Throughput of ~6.0Mtpa

**LIFE OF MINE:** 2020+; Hyde Macraes Shear Zone presents a 35km strike with significant exploration opportunities

OPERATING STATISTICS					
Operating Costs 2017e					
Open Pit Mining Costs	USD / t mined	1.10 – 1.30			
U/G Mining Costs	USD / t mined	35.00 – 38.00			
Processing Costs	USD / t milled	7.00 – 8.00			
G&A Costs	USD / t milled	1.50 - 2.00			



# **Macraes Workforce**



### A COMMITTMENT TO LOCAL AND REGIONAL EMPLOYMENT

**LOCAL AND REGIONAL WORKFORCE:** Employees are bused in from Dunedin / Waikouaiti / Palmerston and Oamaru

**LOCAL PROCUREMENT:** 190 contractor site agreements; predominantly for Plant shutdown maintenance

**OPEN PIT:** operates 24/7 with two shifts; ~206 employees

**UNDERGROUND:** operates 24/7 with two shifts; ~180 employees

**PROCESSING:** operates 24/7 with two shifts; ~80 employees

#### WORKFORCE

Macraes Operation	FTE
Underground	182
Open Pit	206
Processing	82
Technical Services	12
HSE, Commercial, HR	28
Macraes Operation	Contractors
Macraes Operation	Contractors
Laboratory	26
Laboratory	26
Laboratory Blasting	26 8
Laboratory Blasting Maintenance	26 8 4



### Macraes in 2017

### **PRODUCTION IN LINE WITH EXPECTATIONS; STRONGER H2 PRODUCTION EXPECTED**

		2016 GUIDANCE	2017 GUIDANCE		<b>2017 CAPEX</b> (USD m)
Gold Production	OZ	140,000 — 155,000	180,000 - 190,000	Non-Sustaining	4 – 5
AISC	per oz sold	\$1,000 - \$1,050	\$950 – \$1,000	Sustaining + Pre-strip / capitalised mining	45 – 52
Cash Costs	per oz sold	\$750 – \$800	\$600 – \$650	Exploration	5 – 8

MINE LIFE EXTENSION: Mine life extended through recent drilling success

**EXTENSIVE EXPLORATION:** Targeting resource and reserve extensions across operation



# **OPEN PIT MINING**

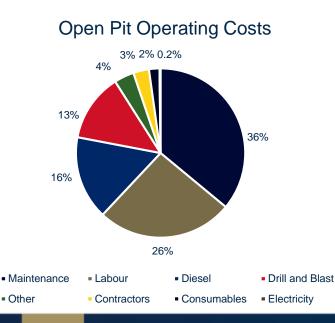


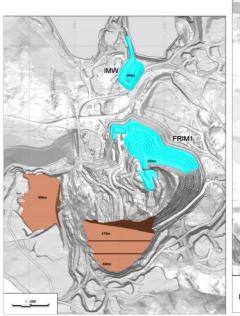
### **Macraes Present Mining Operations**

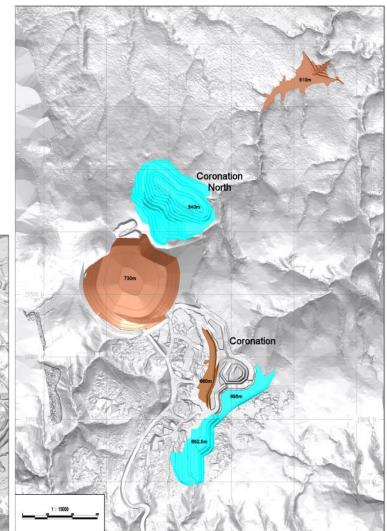


**CURRENT OPERATIONS:** Coronation, Frasers, Frasers / Innes Mills (FRIM) Open Pits and Frasers Underground (FRUG)

**FUTURE OPERATIONS:** Coronation North production expected H2 2017







# **Open Pit Overview**



### ONE OF THE MOST EFFICIENT OPEN PIT OPERATIONS IN THE WORLD

**MINERALOGY:** Flat dipping ore shear zone with a hanging wall lode and quartz stockwork Dominant sulphide association is pyrite with some arsenopyrite

**GEOLOGY:** Host rock is schist comprising metamorphosed siltstones (semi-pelite) and metamorphosed sandstone (psammite)

**BLASTING PATTERNS:** 4.5m x 4.5m blasting pattern; ore blasted to 7.5m bench and selectively mined in 3m x 2.5m flitches; waste blasted to 15m

**FLEET MONITORING:** GPS based fleet management system used to monitor, control and optimise fleet movements

LOM	FRIM	Coronation North	Coronation
Ore (t)	2,690,607	8,747,809	3,010,399
Grade (g/t)	1.04	1.21	1.03
Ounces (oz)	90,017	340,742	99,831
Total Movement (t)	15,367,586	100,434,468	49,462,121

# **Open Pit Equipment**



Equipment Type	Model	Quantity
Trucks	CAT 789D CAT 789C	7 11
Excavator	Hitachi EX3600 CAT EX2500 CAT 5230B	2 1 1
Loaders	CAT 992H – ROM loader CAT 988G Volvo 350F IT62G	1 1 1 1
Dozers	CAT D10T CAT D10R	3 1
Drills	Montabert 330CL – grade control Drilltech D45KS - waste	2 2
Graders	CAT 16H	3
Ancillary Equipment	844 Wheeled Dozer CAT 785C – 150kL CAT 773B – 50kL	1 1 1



### Respect • Integrity • Teamwork • Innovation • Action • Accountability

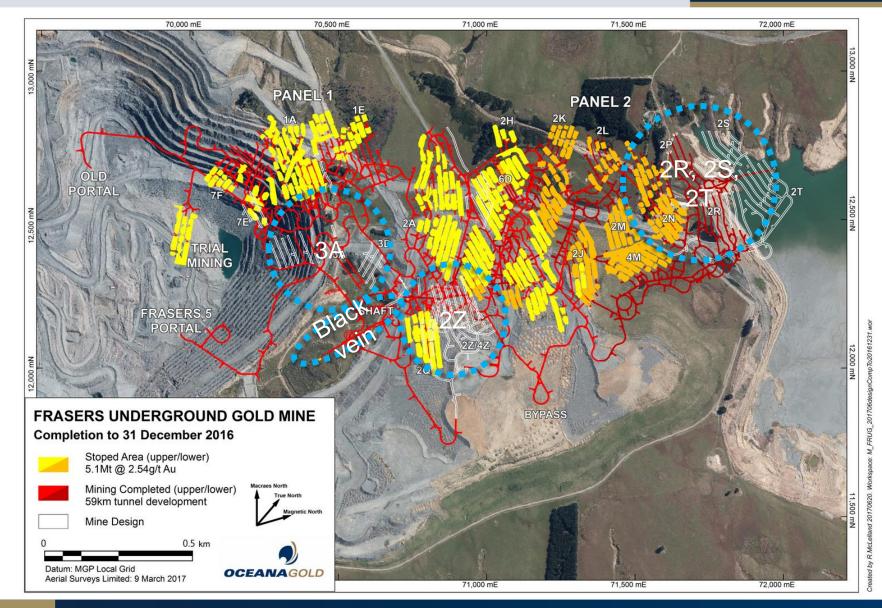


# **UNDERGROUND MINING**



# **Underground Plan**





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# **Underground Overview**



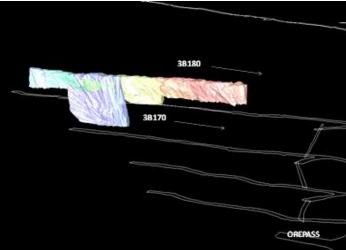
### FRASERS UNDERGROUND 65KM OF TUNNELLING; 800m DEEP

**LOM PRODUCTION:** Operational since 2006; 1Mt ore mined at 2g/t; 60koz mined annually; 800koz LOM production

**BLACK VEINS:** Vertical steep dip, narrow, high grade veins; extends 40m vertically and 400m laterally; 5,000 ounces mined to date; 3.0g/t average grade with better grades expected

**LOM EXTENSIONS:** Drilling activities in 2016 extended the Underground LOM by 12 months





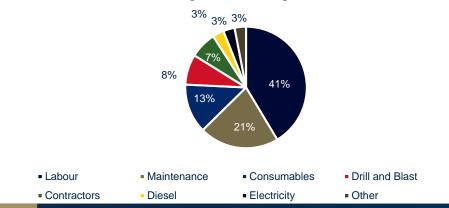
# **Underground Equipment**

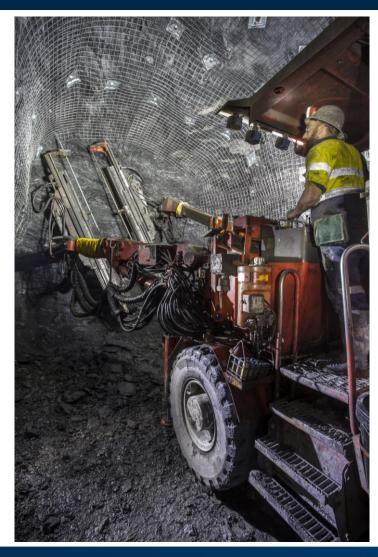


### **NEW OWNER OPERATED BATCH PLANT TO REDUCE SHOTCRETE COSTS 30%**

Equipment Type	Model	Quantity
Trucks	Toro 50t	5
Boggers	CAT 2900 – 16t CAT 1700 – remote 10t Sandvik 151 - remote narrow vein	4 2 1
Shotcrete	Normet spraymech Normaet agitator (6 cubes)	1 1
Drills	Axera Jumbo Solo Cabolter Atlas 104 – narrow vein drill	3 2 1 1
IT	Volvo 120E	4
Production blasting	Charmec	2

#### **Underground Mining Costs**





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# **EXPLORATION**



# **Macraes Exploration Strategy**

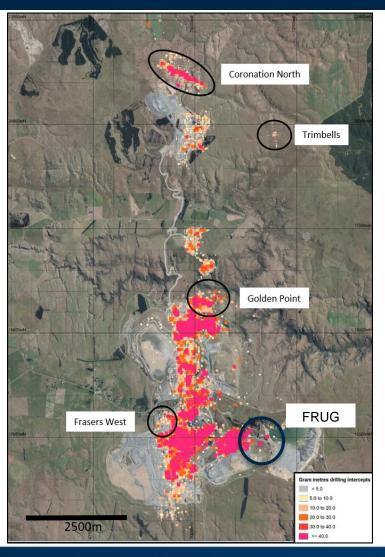


### **EXTENSIVE EXPLORATION ALONG THE HYDE MACRAES SHEAR ZONE**

**DRILLING ACTIVITIES:** Approximately 30,000 metres of drilling expected in 2017 with \$5m to \$8m spend

**STRATEGY:** Significant exploration activities in current permits, as well as investigation of new permit areas; seeking to replace depletion and extend LOM

**SURFACE DRILLING:** Extensive exploration for gold and tungsten to grow reserves and resources in the next 3yrs; one diamond drill and one RC drill rig



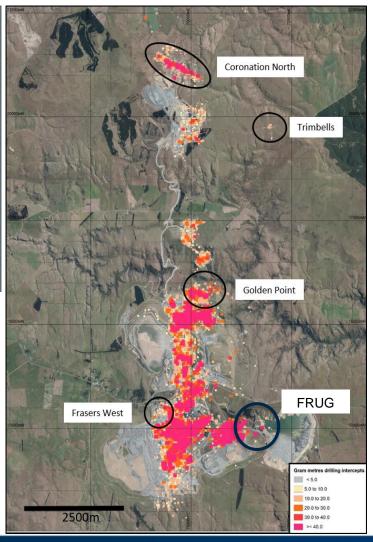
# **YTD Exploration Drilling**



### SIGNIFICANT EXPLORATION ACTIVITIES UNDERWAY

Target	YTD Metres Drilled	# of Holes
Coronation North	2,818.5	11
Coronation	1,170.0	10
Golden Point	2,468.3	13
Frasers West	3,476.5	40
Trimbells	502	11
Nunns	241.1	5
FRUG	498.9	2
TOTAL	11,175.3	92

**RESOURCE ESTIMATION:** YTD drilling results are outside current reported R&R; resource estimation in progress



# **Exploration 2017 and Beyond**



Target Generation	Initial Drilling	Advanced Drilling	Resource Definition	Feasibility Studies
Stoneburn Project	Ounce North	Round Hill Extension	Nunns	Round Hill Project
	Lots Wife	Coronation North Extensions	Deepdell North	
	Deepdell South	Golden Point East	Innes Mills	
	Longdale	Ounce	Frasers West	
	FRUG Panel 3			

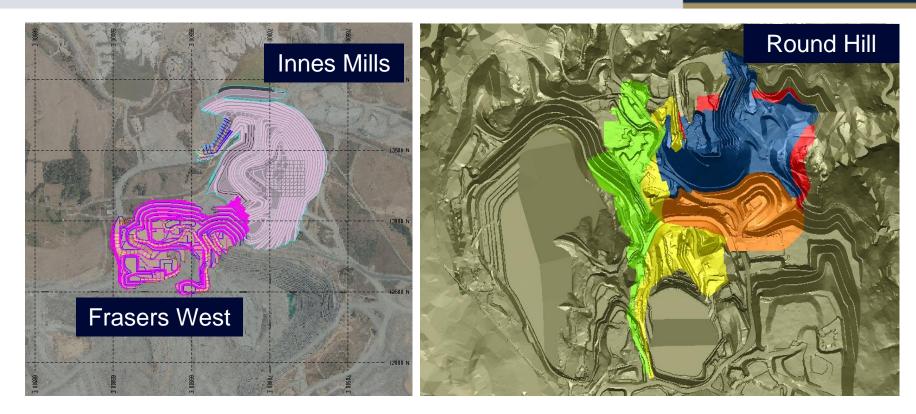
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**INNOVATING TO IMPROVE:** Actively researching mining technology to improve safety; lower costs and improve the economics of marginal orebodies

**SIGNIFICANT POTENTIAL:** There are a number of opportunities that exist to extend Macraes LOM

# **Open Pit Potential Sources**





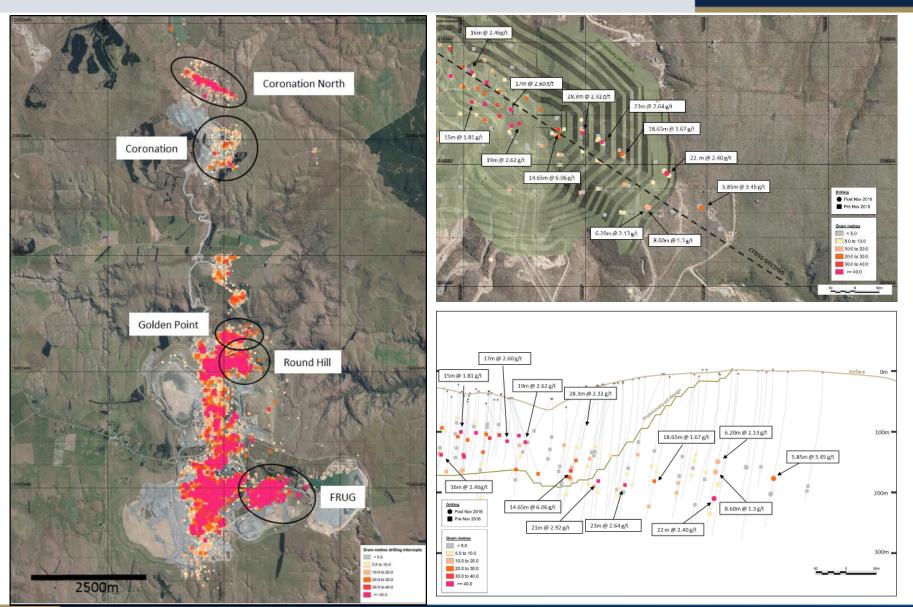
### LOW STRIPPING OPPORTUNITY: Frasers West Open Pit

POTENTIAL CUTBACK: Innes Mills Open Pit

**10+ YEAR LOM:** Round Hill presents an opportunity to significantly extend Macraes LOM to 10+ years

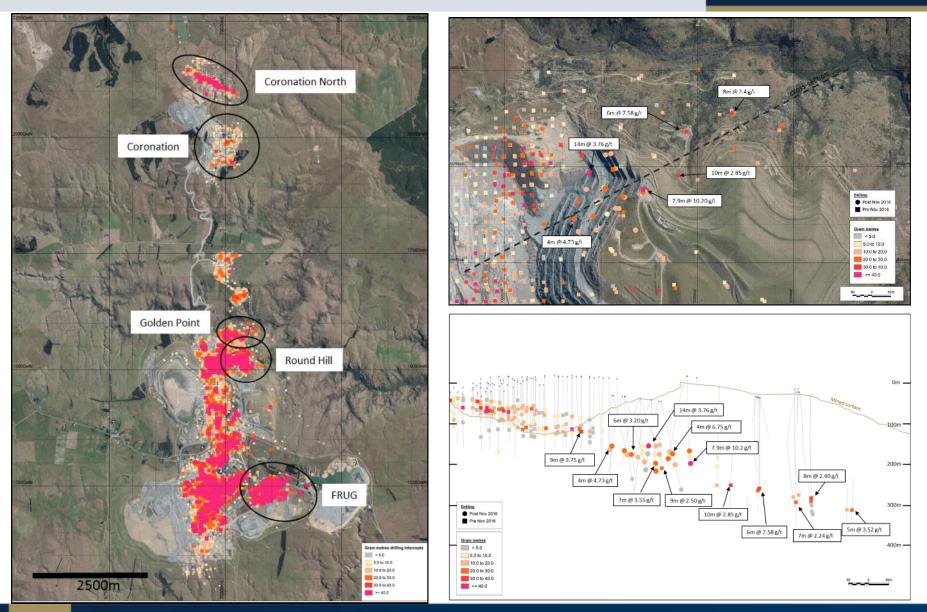
# **Coronation North YTD Drilling**





# **Golden Point YTD Drilling**





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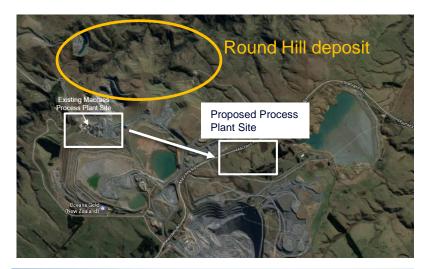
Action

Accountability

### **Macraes Beyond**



### **ADVANCING THE MACRAES ROUND HILL PROJECT**





# ROUND HILL/GOLDEN POINT ~1.38 Moz Resource<sup>(1)(2)</sup>

**STUDY ADVANCING:** Additional technical and economic work underway

**CONCEPT:** New location + build of smaller process plant w/Tungsten circuit

### **MINE LIFE EXTENSION:** Potential for mine life of 10-12 years

1. As at 31 Dec 2016

2. Total Resources = M&I and Inferred Resources. M&I Resources are inclusive of reserves

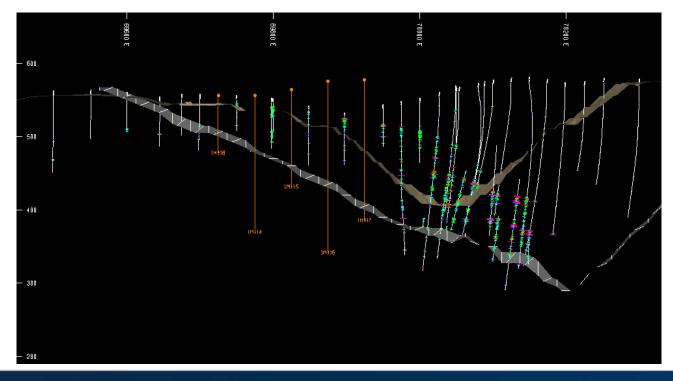
# **Innes Mills**



### AN AREA OF SIGNIFICANT MINERAL INVENTORY RESOURCE

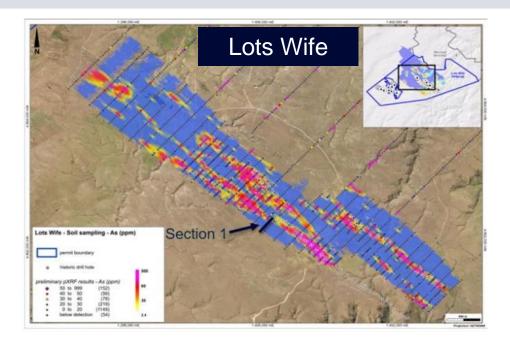
**THE OPPORTUNITY:** 1990's drilling targeted the Hangingwall and not the Footwall; potential to identify missed stockwork mineralization

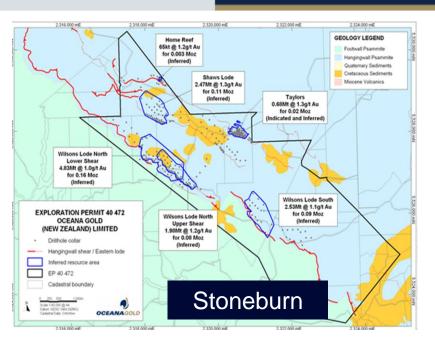
**PROPOSED DRILL PROGRAM:** 5,000m of drilling; constrained by WRS backfill depth



# **Lots Wife and Stoneburn**







### Lots Wife

**DRILLING ACTIVITY:** Initial 1,000m drill program; 2,500m resource definition; 8km of existing infrastructure

### **Stoneburn**

**EXPLORATION ACTIVITIES:** Full desktop and surface mapping program; several scout drill hole program of 2,000m



# **OPEN PIT / EXPLORATION TOUR**





# **ENVIRONMENT & COMMUNITY**



# **Our Environment**



### **Macraes Operation land position**

- » 13,540ha owned / controlled
- » Current footprint of 1,250ha

### **Project land development**

- » Maintaining strong relationship with neighboring land owners
- » Strong position to enhance land control for Macraes expansion
- » Continue to add strategic parcels for optimisation / expansion



# **Environmental Obligations**



- Environmental Advice and Services
- Consents / Authorities / Stakeholders
- Monitoring water, noise, air quality, blasting, geotechnical, climate, vegetation, rehabilitation, flora and fauna
- Regulating Bodies (Regional/District Councils)
- Compliance Reporting
- Landscape Rehabilitation (509ha)
- Waste Management
- Recycling
- Pest Control
- Farm Leases
- Archaeological / Restoration Protection
- Trout Hatchery



# **Investing in Our Local Community**



### WORKING TOGETHER TO LEAVE A POSITIVE, LONG LASTING LEGACY



### HEALTH



### SUSTAINABLE DEVELOPMENT

### **Macraes Development**



Community trust established 2015 (NZ\$2.3M plus land/buildings)





# PROCESSING



# **Processing Overview**



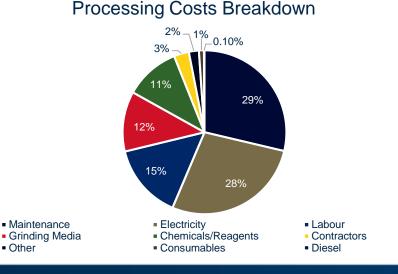
### **NEW OWNER OPERATED BATCH PLANT TO REDCE SHOTCRETE COSTS 30%**

**FLOW SHEET:** Crushing, grinding, flotation, fine grinding, pressure oxidation, carbon-in-leach, elution, electro winning, and smelting

**STRONG RECOVERIES:** Dual refractory ore requires multi stage processing to maximise recovery. First stage (flotation) 86%, second stage (pressure oxidation and CIL) 95%. Overall recovery 81-82%

**AVAILABILITY RATES:** 80%+ maintenance downtime is planned; process plant availability  $\geq$ 95% for 10 years; Autoclave availability of 95% since commissioning in 1999

TAILINGS CAPACITY: 10 years capacity at 5.8Mtpa



Respect 

Integrity

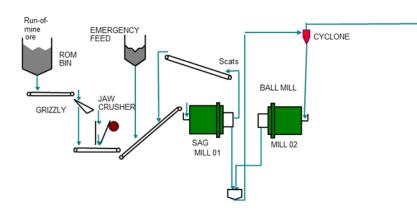
Teamwork

Innovation

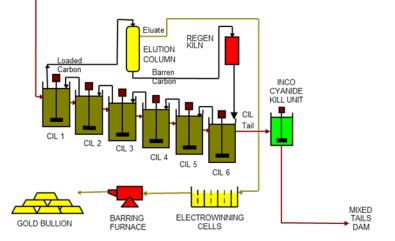
Action

Accountability

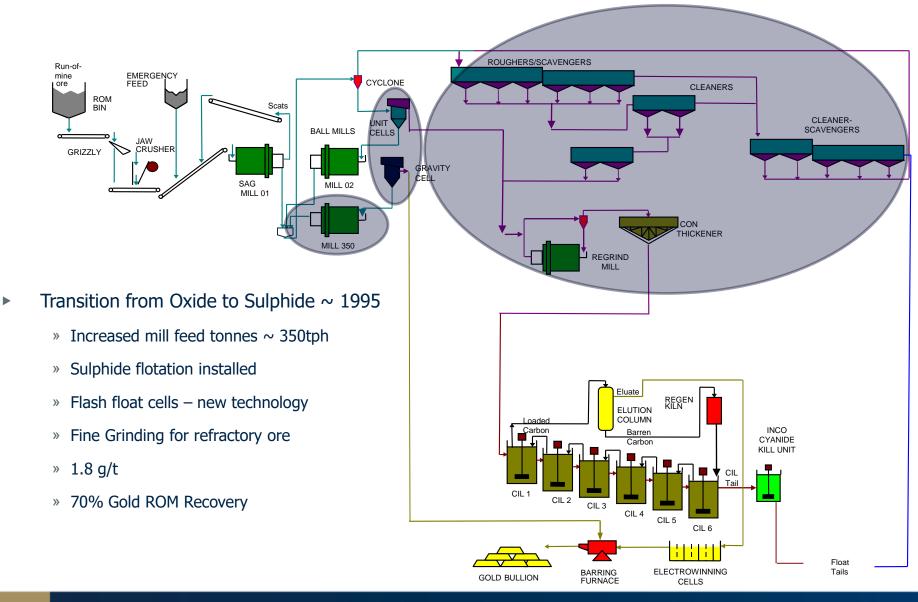




- ► 1990 Oxide Circuit
  - » 250tph
  - » 2.02 g/t
  - » 90% Au Recovery

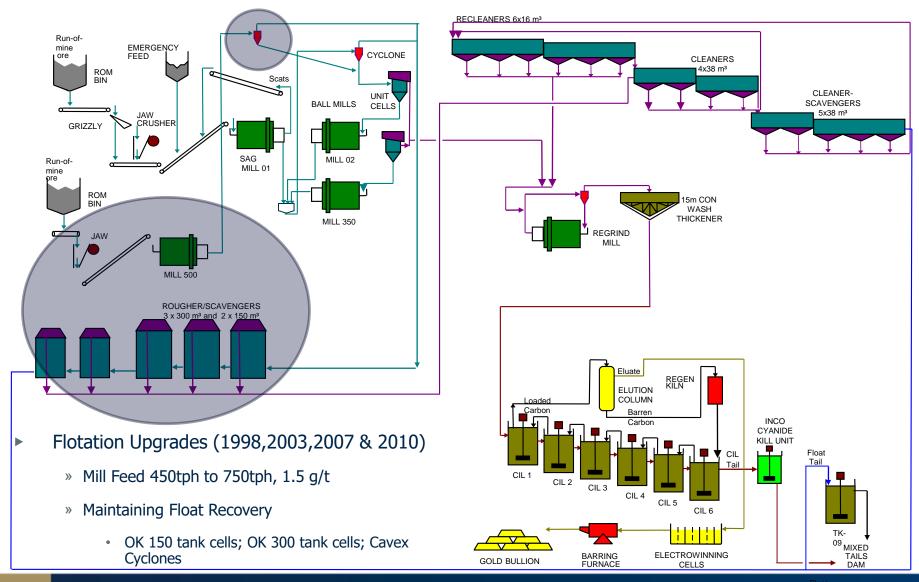






### Respect Integrity Teamwork Innovation Action Accountability

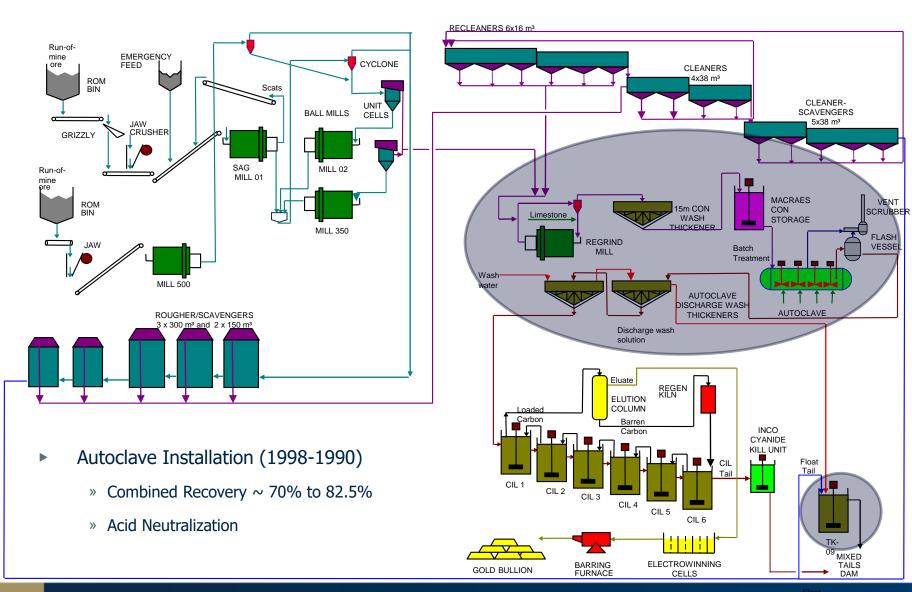




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Tails

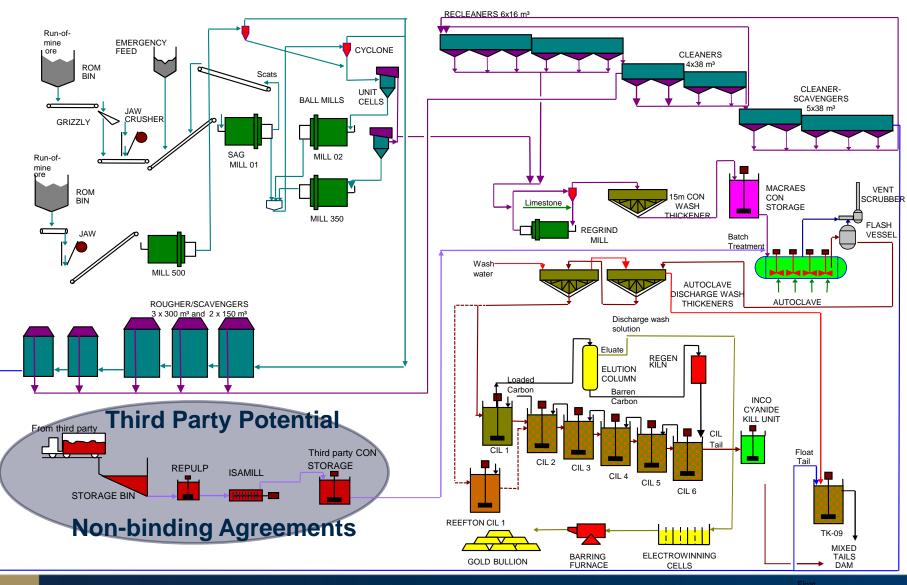




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