

SMEDG July 2018 Greg Cozens & Paul Flitcroft July 2018

REGIS RESOURCES

REGIS RESOURCES (ASX:RRL)

- > Perth Based, purely Australian gold miner and explorer.
- > 100% owned Duketon Gold Project
 - Commenced 2010
 - > 3 operating mines Moolart Well (2010), Garden Well (2012), Rosemont (2013) + satellite pits
 - > 2.2Moz Reserve,
 - 5.8Moz Resources
 - > FY2018 production- 361,373oz
- NSW 100% owned Moorilda, Molong and Blayney projects
 - 2.03Moz in Reserves at McPhillamys
 - 1.09Moz in Resources on Blayney Project







NSW Potential Growth – Regional Tenement Overview Paul Flitcroft July 2018

NSW Tenement Holding



- Regis now hold exploration tenure over 970 sq kms of ground across 6 tenements.
- Reserves of 2.03Moz (McPhillamys) and 1.09Moz in Resources across Discovery Ridge and Bald Hill.
- Excellent potential for both orogenic and porphyry mineralisation across Regis tenements.



Completed and Current Work

Completed work

- Geotechnical drilling program at McPhillamys
- ~5,330m resource infill drill program at DR
- ~3,000m drilling program to test targets at depth at DR underway.

Fieldwork Underway or Planned

- ~2,000 sample soil program Blayney tenement (EL5922) underway.
- ~700 sample soil program covering anomalous stream sample areas on the Molong lease (EL7878) nearing completion.
- ~6,000 sample soil program across Moorilda lease (EL5760) underway
 Desktop Studies
- Review of all historical data across the Blayney and Molong projects.





Blayney Project Targets – EL5922



- > Purchased off Straits in 2017
- Prospective for Porphyry, shear hosted and IRG Au-Cu deposits
- Mix of advanced and early stage projects
- Advanced projects Discovery Ridge, Bald Hill
- Porphyry Targets: Ferndale, Halls Rd, Ewin Sth-Gully, Browns Creek NW
- Shear Hosted Au Targets: DR-Gallymont Trend, Avondale, Learys Hill, Bluebird mine, BH-Willowvale
- > IRG Targets: Bald Hill surrounds, Mandurama



Blayney Project – Historical Mining



Browns Creek (1860 - 1999)

- Shallow underground and open pit during the 1980s and 1990s. Hargraves Resources commenced the main underground mine in 1995, which reached a decline depth of approximately 550m below surface.
- Produced 270,000 ounces of gold, 350,000 ounces of silver, and 6,500 tonnes of copper from 1995-1999 before water flooded the mine in 1999.
- Skarn deposit
- Gallymont (1884 1901)
- > Alluvial gold first discovered in 1884.
- Reef mining commenced in 1880's
- > Total production 1,925oz Au
- BY Gold Mine (1990 1991)
- Oxide open cut mine operated by Newcrest from 1990 to 1991 on the outskirts of Blayney. Produced 16,230 oz Au through Browns Creek mill.



Blayney Project

Surface Sample Anomalies

- The compiled soil data has been used to create contours for Au, Cu, Pb, Zn, As and Ni.
- Using the 75 ppb gold contour as an initial basis 181 soil anomalies have been defined
- Additional soil sampling is underway across selected anomalous Au hotspots.
- A geochem consultant is currently reviewing the historical drill data.





- 100% Regis owned & located approximately 32km
 SW from McPhillamys Gold Project.
- Intially discovered by BHP in 1990 by BLEG soils
- MRE of 13.8Mt @ 1.1g/t for 501Koz by Goldminco
- Total of 5,330m of drilling at DR by Regis
- Shear hosted gold deposit hosted in strongly foliated, fine-grained metasediments at contact of Ordovician Coombing and Adaminaby Formations.
- Strike length of around 200m.



- Orebody comprises well defined steeply north pitching east Lode with widths of around 50 metres and known depths of up to 500 metres
- A parallel west lode of similar orientation occurs but is more diffuse.
- Significant results include:
- 48.9m @ 2.07g/t Au from 70.1m
 in hole RRLDRRCD010
- 26.6m @ 3.01g/t Au from 128m
 RRLDRRCD010
- 147m @ 1.26g/t Au from 145m
 RRLDRRCD011
- 117m @ 2.48g/t Au from 128m
 RRLDRRCD012
- Updated MRE and maiden Ore Reserve estimation for Discovery Ridge 2nd half 2018.



- Deposit geology comprises deformed thinly to thickly bedded fine grained siltstones and sandstones, schist and cherts
- Hydrothermal alteration comprising sericite-chlorite-qtz carbonate veining
- Appears to be two phases of mineralisation: (1) an early Auquartz-arsenopyrite shear-hosted event (east lode) (2) a late Aubase metal-carbonate association (west lode)
- Narrow high-grade quartz-Au veins (intercepts up to 73g/t Au) associated with Cu, Pb and Zn sulphides occupy these fractures.







Blayney Project - Bald Hill

- Initially discovered in 1990 by BHP Gold during regional BLEG soil sampling program
- MRE of 37mt @0.5g/t and 0.05% Cu for 595koz
- Silurian aged IRG type Cu-Au deposit with metals associated with late, sub-propylitic alteration in the Bald Hill Granodiorite.
- Broad low-grade Au zones (hosted within the granodiorite) strike northeastsouthwest and dip moderately westwards.
- Large intrusive beneath the Bald Hill Granodiorite is the source of the mineralising fluids.



Blayney Project - Bald Hill

- Southern Bald Hill resource cross section.
- Improving Au grades at depth within granodiorite porphyry at contact with volcano-sedimentary sequence.
- Faulted margins of the Bald Hill Granodiorite are the most favourable targets for higher-grade Au-Cu mineralisation.
- 164m @ 0.5g/t Au to EOH, Incl. 74m @ 1.0g/t Au from 157m.
- Proposed work test with RC/diamond drilling.





Blayney - D.R. to Gallymont trend

- Numerous Au and As targets along N-S structure, following contact between Coombing Fm and Adaminaby Beds
- > Targets up to 1.8km long x 0.3km wide.
- Known historic Au mining area
- Limited historic RAB/Aircore and RC drilling

Proposed Work

- Compile historical drill hole data for assessment.
- > Review and re-interpret DR IP
- Assess IP survey targets vs soil anomalies
- Shallow RC drilling to test targets



D.R. to Gallymont trends





Blayney Porphyry Targets – Forest Reef Volcanics

- The Blayney tenement covers a significant amount of the prospective Forest Reefs Volcanics.
- FRV hosts a number of significant porphyryrelated mineralised systems, including Newcrest's Cadia-Ridgeway group of deposits.
- Alkalic porphyry Au-Cu mineralisation is associated with the emplacement of monzonitic intrusive complexes into volcano-sedimentary rocks of the Forest Reefs Volcanics and Weemala Formation.
- Known porphyry mineralised centres are recognised on the Blayney tenement
- Porphyries situated along WNW trending, 5km long corridor.
- > High level, lateral, WNW trending magnetite-Au-Cu mineralised skarns (Big & Little Cadia) are associated with the porphyry Au-Cu mineralisation on the Blayney tenement.





Porphyry Targets – Forest Reef Volcanics





Porphyry Targets – Forest Reef Volcanics



- TMI data for the Blayney tenement overlying Blayney 100k Geology.
- Quality technical exploration has been completed (geophys, mapping, etc.) however any targets generated have not been sufficiently drill tested.
- In some areas targets have not been refined using surface sampling and modern analytical methods.



Porphyry Targets – Ferndale

 Located on the northwest flank of the Tallwood Monzonite concealed by Tertiary basalts



Advanced Porphyry Targets – Ferndale

- Discovered using mag and IP
- Total of 49 RC and DD holes
- Drilling intersected Cu-Au bearing, shallow north dipping magnetite skarn consistent in type with Cadia skarns.
- Intersected porphyry related stockwork guartz-magnetitepyrite-chalcopyrite vein system at depth on the northern aspect of the prospect area.
- Porphyry intrusion could exist reasonably nearby (100 to 500m) either below or adjacent laterally to the deepest hole

Ferndale Schematic Alteration Cross Section



Porphyry Targets – Browns Creek

 Located on the eastern flank of the Tallwood Monzonite. Northern part of prospect concealed by Tertiary basalts



Advanced Porphyry Targets – Browns Creek NW

- Total of 4 holes drilled to test IP chargeability anomalies T1 and T3 by HPX and Goldminco.
- Drilling intersected peripheral zone of porphyry system
- Possibility that a more proximal setting is to west at IP target T2, which also coincides with magnetic high
- Shallow hole above T2 has weak Au and possible phyllic alteration at BOH indicating possible buried porphyry system.







Moorilda Project

- Main focus has been McPhillamys for the past 5 years
- Godolphin fault splays have excellent mineral potential (McPhillamys 2.0Moz, Historic Lucknow >250Koz, Lewis Ponds area)
- Potential for "Lucknow" style mineralisation associated with serpentinised ultramafics along fault zones.
- Historic anomalous Au in soils along the Godolphin fault zone to be followed up with infill soils and ground mag.
- 6000 sample soils program currently underway along known mineralised trends.





Molong Project – EL7878

- High mineral potential for both orogenic and porphyry mineralisation
- Comprises favourable Macquarie Arc Volcanics in the northern portion and Macquarie Arc Volcanics concealed byTertiary basalt in the south.
- Entire tenement is relatively under explored.
- Advanced exploration targets are Charlie's and Galloways prospect.
- Regis have recently completed a stream and soil sampling program to enable the definition of more targets across the tenement.





Molong Project – Charlies & Galloway prospects

- Charlies and Galloway prospects are interpreted to be located at the step over between two NW trending extensional fault systems
- Dilation within the step over has allowed intrusion of a porphyry system
- Location of porphyry defined by chargeability and resistivity highs due to SiO2 and pyrite alteration in host rock





Molong Project – Charlies

- Geochemistry and geophysics suggest the intrusive complex and surrounding formations are similar/comagmatic to Cadia Hill
- Skarn system nearby at Koolewong
- IP and magnetics identified circular intrusive body with demagnetised core
- Drilling intersected hydrothermal breccias within a large carbonate-sericite-pyrite alteration system
- 22 holes have been drilled previously. Best results are:

MRC001 – 12m@0.67g/t Au from 6-18m MRC002 – 26m@0.13g/t Au from 10-36m MRC004 – 30m@0.26g/t Au from 20-59m MDD010 – 1m@3.36g/t Au from 40-41m NEWELD021 – 11.8m@0.31g/t Au from 405m to



Molong Project – Galloway

- Previous drilling (E-W) targeted magnetic monzodiorite
- Weak narrow Au intersections associated with Qz-CO₃-Cp veins
- Minor evolved monzonite dykes also intersected
- Veins & Dykes oriented N-S
- Untested IP anomaly







Molong Project – EL7878

Work Completed 2017/2018

- > 220 stream samples were taken across 39 different properties over the past 12 months.
- Anomalous gold >3ppb was detected near the western boundary close to a new tenement application EL5607 and also around the Borenore and Broken Shaft Prospects.
- 700 sample soil program to define anomalous stream samples near completion July 2018.

Proposed Work 2018

- Conduct field mapping across anomalous areas
- IP and MT programs to test anomalous areas





Regis Resources Ltd







SMEDG July 2018 Exploration update- McPhillamys Greg Cozens July 2018

McPHILLAMYS

BACKGROUND

- Regis purchased McPhillamys in 2012.
- Regis' intends to develop a 7.0 Mtpa open pit gold mine at McPhillamys including a process facility and supporting infrastructure.

Target Timeline

- Preliminary Environmental Assessment (PEA) document has been submitted
- Receive Secretary's Environmental Assessment requirements (SEARs) from Department of Planning & Environment (DPE)
- Submit draft EIS in December 2018 quarter for public exhibition
- Receive decision in first half of 2019
- Commence construction in second half of 2019
- Commence operations in 2020



INTRODUCTION

EXPLORATION HISTORY

- Alluvials 1850'-1860's
- 1880-1890 gold rush- small scale gold mining
- McPhillamys Hill- 2 shafts and cross cuts, little success (4 tonnes @ 4.2 oz Au)
- > 1960's-70's focus on base metal exploration
- 1994 Hargraves Resources took up EL's covering 30km strike along Godolphin Fault Zone
- 1998 Hargraves Regoleach soil anomaly
- > 2000-07 Alkane Resources –soils, IP, drilling
- 2008-10 Newmont JV- further drilling, resource estimation
- 2012 Regis buys project



GEOLOGY & TENURE

Geological Summary

- The McPhillamys deposit is located within the Silurian-aged Anson Formation of the Lachlan Fold
- The deposit lies along one of a series of north-south trending splays/horsetail structures that occur at the inflection of the Godolphin-Copperhania Fault Zone.
- Gold mineralisation is associated with strongly sheared volcaniclastics with strong quartz-carbonate-sericitepyrite-pyrrhotite alteration.





Estimation

- > Estimated in-house using OK, replacing the previous MIK estimate
 - > Considered more appropriate for style of mineralisation
 - > Extra drilling saw high-grade zones link better, improving the resource grade
 - > Check estimate completed using MIK and came within 5%.
- Regis commissioned structural study by SRK highlighted the estimate required a changed strike orientation
 - > The result of the orientation change improved the grade further

Comparison of 2014 and 2017 Resources

The latest round of drilling shifted 195koz Au to indicated and added 97koz Au (\$155M) to the total resource. The Drill out cost approximately \$7.2M.

Gold			Indicated			Inferred			Total Resource		
Project	Туре	Cut-Off (g/t)	Tonnes (Mt)	Gold Grade (g/t)	Gold Metal (koz)	Tonnes (Mt)	Gold Grade (g/t)	Gold Metal (koz)	Tonnes (Mt)	Gold Grade (g/t)	Gold Metal (koz)
2014 MIK	Open-Pit	0.4	69.2	0.94	2,087	3.9	0.98	123	73.2	0.94	2,210
2017 OK	Open-Pit	0.4	67.7	1.05	2,282	1.2	0.64	25	68.9	1.04	2,307
The above data has been rounded to the nearest 100,000 tonnes, 0.01 g/t gold grade and 1,000 ounces. Errors of summation may occur due to rounding.											



Drilling Summary

- > January 2013 to June 2013 83 holes for 25,957m. Drilled to 50 x50m
- September 2016 to July 2017-134 holes for 43,690 meters, a 220% increase in lineal meters (was 36,367m)
- > Drillhole density is now 25m spaced lines by 25m and 50m spaced holes





Late 2017 Infill Drilling

- > Infill programme drilled between October 2017 and December 2017
 - > 8 holes for 3,868 meters, testing the largest remaining data gaps in high grade areas as well as testing below the Ore Reserve design
- > Results line up very well with the existing MRE and enhance the higher grade zone





Down hole Au Grammetre long section. Looking East







Figure 2-5: Long section (E 715900 m) through modelled fault network and gold grade models (ppm) to illustrate northerly plunge of gold and trends along NW structures





Figure 2-4: Interpreted fault network overlain over modelled gold grade models (ppm) to illustrate fault trends and breaks in gold distribution



Medium grained intermediate (dacitic) extrusive



Sheared clast supported volcaniclastic

Spectrum of volcanic and volcaniclastic rocks from coherent lavas to volcanic breccias, clast and matrix supported volcaniclastic to turbidites with graded bedding





Medium grained dacitic volcaniclastic



Sheared medium grained volcaniclastic







Medium grained volcaniclastic with matrix supported clasts



Rounded clasts which have been deformed/sheared



GEOLOGY Au grade differences in clastic units













- Plan showing
- proposed pit outline,
- > 0.1g/t Au outline
- section lines
- Hole DD127- and
 KPD003 petrology, XRD,
 Hylogger













Geotechnical drilling early 2018

- Investigating extent of clay zone and limestone/marble intersected in previous drilling
- Benefit for pit design and geological understanding
- 2 holes successfully drilled through clay zone
- Zone of oxidised phyllite and volcaniclastic siltstone
- Intense sericite, argillic alteration
- Relict rock textures





Schematic long section of clay and limestone/marble. Looking west





Clay zone and marble wireframes showing location within proposed pit Clay and marble appear to be cut off by NE trending Fault



Brown- Clay Lt Blue- Limestone/Marble Purple- NE Fault



DD222 Clay zone









Limestone/Marble

- > Fossiliferous marble or recrystallised marl, replacement carbonate
- Banded, interfingered carbonate richcarbonate poor layers
- Carbonate poor layers- white mica altered meta sandstone, volcaniclasticoverprinted by carbonate.
- Carbonate rich layers- re-crystallised carbonate, remnant bioclastic grainscrinoid and shell fragments
- Gradational and sharp contacts
 with volcaniclastics
- > Age dating on fossils underway





Limestone/marble





interfingered limestone/marble and chlorite-sericite altered sediment





Possible interpretation for interlayering of volcaniclastic and limestone/marble





Recent petrology, XRD on samples from RRLMPDD127 by Dr Joel Fitzherbert at GSNSW

- Mineralised zone
 - Host rock porphyritic and volcanogenic, lack of quartz, suggests andesitic
 - Undergone early, pervasive, intense k-feldspar alteration (microcline/orthoclase).
 - Primary sieve textured, equant and disseminated pyrite and cg vein hosted pyrite is intimately associated with initial potassic alteration and overprinting carbonate alteration.
 - Pyrite with sieve textured cores, inclusion free rims. AMIRA work showed Au in cores of pyrite. Au in fractures and on grain boundaries.
 - > Chlorite poor and muscovite rich- phengite dominant mica.
 - Phengite rich, chlorite carbonate poor ore zone sequence, reflecting later hydrous alteration and intense deformation of an early formed k-feldspar alteration zone.
 - Confirmed by XRD and SWIR Hylogging of hole KPD003.



Footwall sequence

- No k-feldspar alteration
- > Plagoioclase, now albitised preserved in andesitic precurser
- Chlorite and carbonate are abundant as secondary minerals defining foliation and in late veins
- Albite abundant
- Muscovite dominant white mica
- Fe-Mg chlorite abundant
- Ankerite abundant adjacent to mineralised zone, grading to calcite further into footwall
- Petrographic history and alteration is consistent with a pre deformation, possibly stockwork vein system associated with pervasive potassic alteration and abundant disseminated pyrite in the host sequences. Early vein system and alteration has been intensely sheared and strung out into parallelism with regional foliation



Section





Going Forward and suggested work

- Age dating of mineralised volcaniclastics under way
- Age dating of fossils in marble underway
- Assess depth extensions to McPhillamys
- Further explore surrounding prospects/targets
- Review Tromino passive seismic survey completed in June
- Further evaluate geophysical response of McPhillamys
- Alteration studies using Hylogger to investigate broader halo
- > Additional isotope analysis H-O on biotite alteration



From AMIRA P1041 Summary. Conducted in 2010 when Newmont owned the project.

Genetic Models

- Orogenic Gold: unlikely
 - Little quartz veining and different alteration assemblage
 - Gold is early in pyrite cores, no late gold associated with orogenesis
- VHMS: unlikely but possible
 - No massive sulfides and very low grade Zn & Pb are negatives
 - Au-Te associations are not common in VHMS
 - BUT, has similarity to the footwall precious metal zone associated with Kfeldspar alteration at Que River
 - S isotopes are compatible with Siluro-Devonian VHMS
- Porphyry Au-Cu: unlikely
 - Very low Cu, different alteration and no clear zonation
 - S isotopes could be interpreted as a magmatic source for S
 - Need to get robust Pb isotopes on core pyrite



Hybrid Model

- McPhillamys is a sediment-volcanic-hosted disseminated gold deposit
- It does not fit easily into current genetic models and could be considered as a hybrid deposit
- For example it could be a precious metal-rich exhalative volcano-sedimentary deposit with a weak orogenic overprint



Joel Fitzherbert interprets the deposit as possibly an epithermal-Au system involving early stock-work style pyritic veins and disseminated pyrite associated with strong K-feldspar alteration followed by late stage carbonate and finally sericitic hydration



AMIRA