

## ACTIVITIES REPORT FOR THE QUARTER ENDED 30 JUNE 2022

Sunshine Gold Limited (ASX:SHN, "Sunshine Gold", "the Company") is pleased to present its Quarterly Activities Report for the period ended 30 June 2022.

### HIGHLIGHTS

- Diamond drilling results were returned for four diamond drill holes at Triumph. The encouraging results included:
  - **3.2m @ 6.74 g/t Au** from 27.8m (22NCDD001)
  - **4.5m @ 2.16 g/t Au** from 30m (22SHDD001)  
And **10.8m @ 1.89 g/t Au** from 59m (22SHDD001)
  - **1.3m @ 12.72 g/t Au** from 58m (22SCDD001)
- Preliminary metallurgical test work was completed at Triumph. The test work demonstrated excellent recoveries for a range of potential extraction techniques. It is expected that these results can be even further improved by a combination of methods (which is typical in practice):
  - Gravity test work recoveries up to 79.1% (averaging 66.9%)
  - Flotation test work recoveries up to 97.6% (averaging 92.1%)
  - Cyanide leach extractions up to 95.9% (averaging 86.7%)
- Excellent recoveries were also obtained from metallurgical test work at Titov, Ravenswood West. Optimum settings resulted in a peak molybdenum recovery of 91.7% and a copper recovery of 76.5%. Preliminary cleaner flotation test work further reduced the mass pull and returned concentrate grades to 56.8% Mo.
- A review of 1970 geochemical and geophysical data and field mapping validation delineated a porphyry Cu-Au-Ag-Mo target at the Bank, Ravenswood West. The target was prioritised for drilling which commenced on 27 June 2022. Five RC holes were drilled (716m), with all holes intersecting sulphide and strong alteration.
- Induced polarisation geophysical surveys were completed at Gagarin and Titov West, Ravenswood West.
- Soil sampling of the Elphinstone Creek rare earth element ("REE") target was completed in June 2022, Ravenswood West. Soil sampling was also completed at the Connolly Au and Bank Cu-Au-Ag-Mo targets.

### SAFETY AND PRODUCTIVITY

Field work and drilling has been divided between Ravenswood West and Triumph for the June 2022 quarter. The quarter was safe and productive with nil reportable incidents. Key performance indicators are shown below:

- A total of 716 m of RC drilling was completed at Ravenswood West.
- Field crews collected 665 soil samples from Elphinstone Creek, 108 soil samples from Connolly, 50 soil samples from the Bank, Ravenswood West.
- Contract geophysical crew completed an 8-day induced polarisation survey at Gagarin and Titov.

### TRIUMPH DIAMOND DRILL RESULTS

Four diamond core holes were completed for a total of 523.5m across the four principal areas of interest within the Southern Corridor. The average hole depth was 130.8m. The holes were drilled to characterise the mineralisation style, vein orientations and to provide specific gravity data for JORC Resource estimation.

Encouragingly, all four holes successfully intercepted mineralisation, represented by quartz-pyrite(-arsenopyrite) veining with sericite(-quartz) alteration selvages. The structural measurements confirmed the two preferential orientations for mineralisation as east-west and northwest-southeast, dipping from steep to sub-vertical. The preferred vein orientations are consistent with the overall modelled deposit orientations.

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#### Capital:

Ordinary shares: 467,822,730  
Unquoted shares: 151,900,000 (24m Esc)  
Deferred shares: 50,000,000 (24m Esc)  
Unlisted options: 65,000,000 (24m Esc)  
Unlisted plan options: 2,700,000  
Perf Rights: 8,500,000 (24m Esc)

The best intersections from the diamond drill holes included:

- **3.2m @ 6.74 g/t Au** from 27.8m (22NCDD001)
- **4.5m @ 2.16 g/t Au** from 30m (22SHDD001)  
& **10.8m @ 1.89 g/t Au** from 59m (22SHDD001)
- **1.3m @ 12.72 g/t Au** from 58m (22SCDD001)



*Figure 1. Sulphide-rich mineralised position in diamond hole 22NCDD001 (28m - 29m).*

#### **FIRST STAGE METALLURGICAL PROGRAM, TRIUMPH**

Five sample locations were selected to assess metallurgical recoveries across the defined Triumph JORC Resource (see ASX 31 March 2022). The samples were selected from composited, RC drilled intervals within the Southern Corridor JORC Resources. A series of studies sought to determine recoveries via gravity separation, cyanide leach and flotation. Future test work will assess combinations of gravity/leach or gravity/float circuits. It is expected that these results can be even further improved by a combination of methods (which is typical in practice). Future test work will also be conducted to assess grinding parameters (comminution).

##### **Gravity Test Work**

The tests simulated gravity recovery as part of a milling circuit. Excellent gravity recoveries were achieved with an average recovery of 66.9% achieved.

##### **Bottle Roll Test Work**

Basic bottle roll tests simulate the cyanide leaching stage of a conventional milling circuit. Constant cyanide concentrations were used for all the bottle roll leaching tests. For comparison, leach tests were performed on samples at two grind sizes (80µm and a fine grind 45µm). Pleasingly, average recoveries and consumptions were almost identical from both grind sizes (80µm grind size @ 85.3% and 45µm grind size @ 86.7%). Future bottle roll test work will optimise recovery through direct cyanidation with gravity recovery and assess the effect of oxygen or air sparged through the slurry.

##### **Flotation Test Work**

Flotation test work was completed to assess the amenability of the feed to produce a gold concentrate. The sample feed passed through a series of six rougher flotation cells to produce a concentrate. An average of the five tests completed shows a concentrate grade produced of 29.8g/t Au, recovering at 92.1% from 8.4% of feed (mass pull).

### **FIRST STAGE METALLURGICAL PROGRAM, TITOV, RAVENSWOOD WEST**

A single composite sample was sourced from RC drilling completed at Titov. (ASX dated 19 October and 6 December 2021). A metallurgical study was completed by ALS and sought to determine copper, gold, silver and molybdenum recoveries via rougher flotation. Optical mineralogy results indicated that molybdenite and chalcopyrite are very well liberated in all fractions. Four rougher tests were conducted to understand recoveries, using different grind and reagent settings and introducing pre-floats. The sample submitted contained a low gold content. Effective gold recoveries will be determined from samples taken from the areas of Titov with higher gold grades such as expected in the Eastern zones.

The optimal of the tests conducted saw feed pass through a pre-float cell to produce a concentrate, with the remaining feed passing to a series of three rougher floatation cells. The process essentially forms two separate concentrates. A low mass pull in the pre-float (6.4%) recovered 85% of the molybdenum and 47.2% of the total copper. The remaining feed passes through a series of three rougher cells where a further 6.7% of the molybdenum and 28.5% of the copper is extracted, resulting in total recoveries of 91.7% for Mo and 76.5% for Cu. The process extracts 66.3% of the silver.

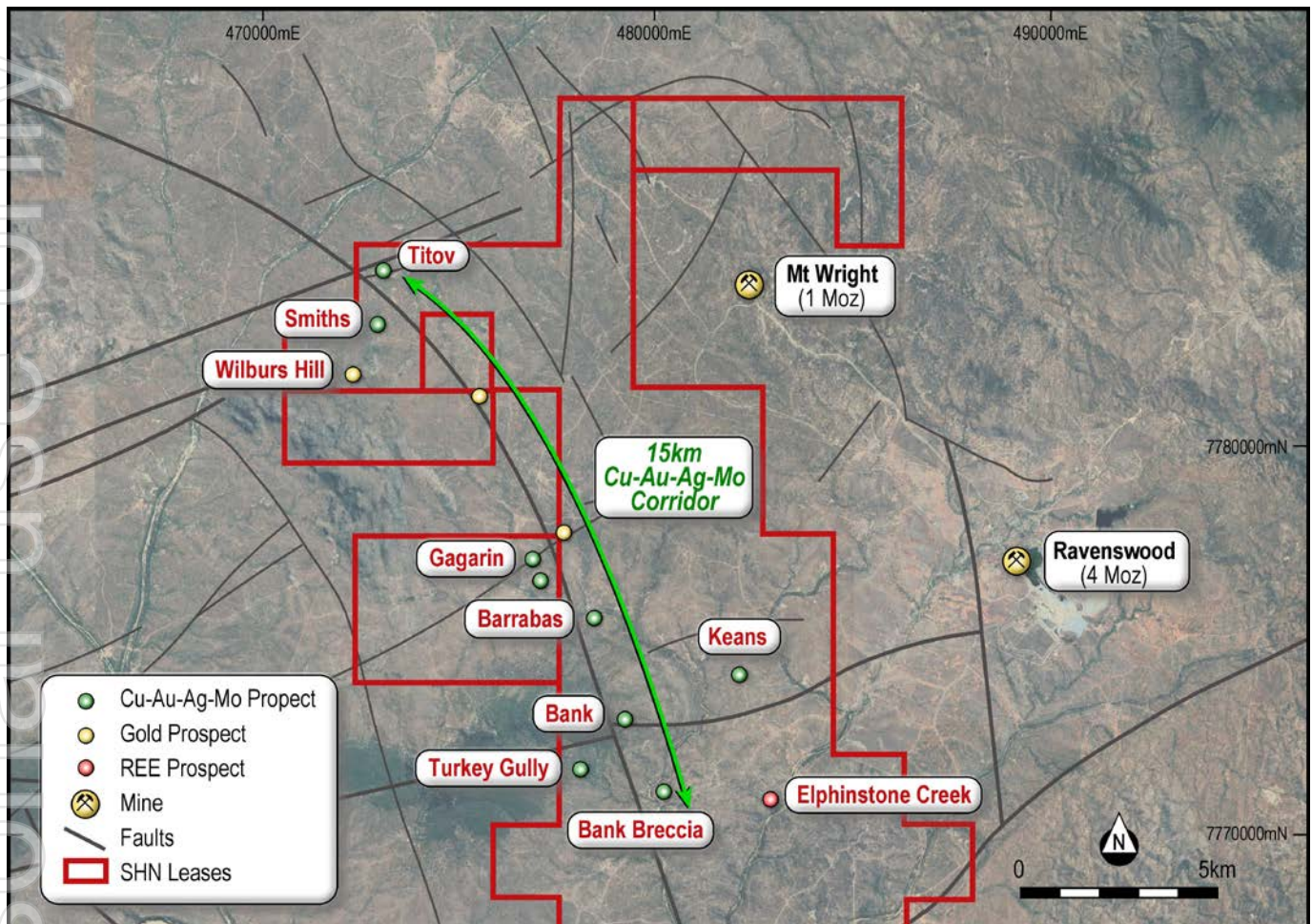
Preliminary test work utilising cleaner flotation (optimised for molybdenum concentrate grade) lowered the mass pull to 0.6% and produced final concentrates grading up to 56.8% Mo. It is anticipated that similar test work optimised for both copper and molybdenum will improve the grade of copper concentrates.



*Figure 2. Rougher flotation test work from Titov, Ravenswood West.*

### **THE BANK RC DRILLING, RAVENSWOOD WEST**

The Bank is situated at the southern end of a 15-km Cu-Mo porphyry corridor (Figure 1), which also includes prospects Titov and Gagarin. No modern exploration has occurred at the Bank, with the last soil sampling and geophysical surveys completed in 1971.

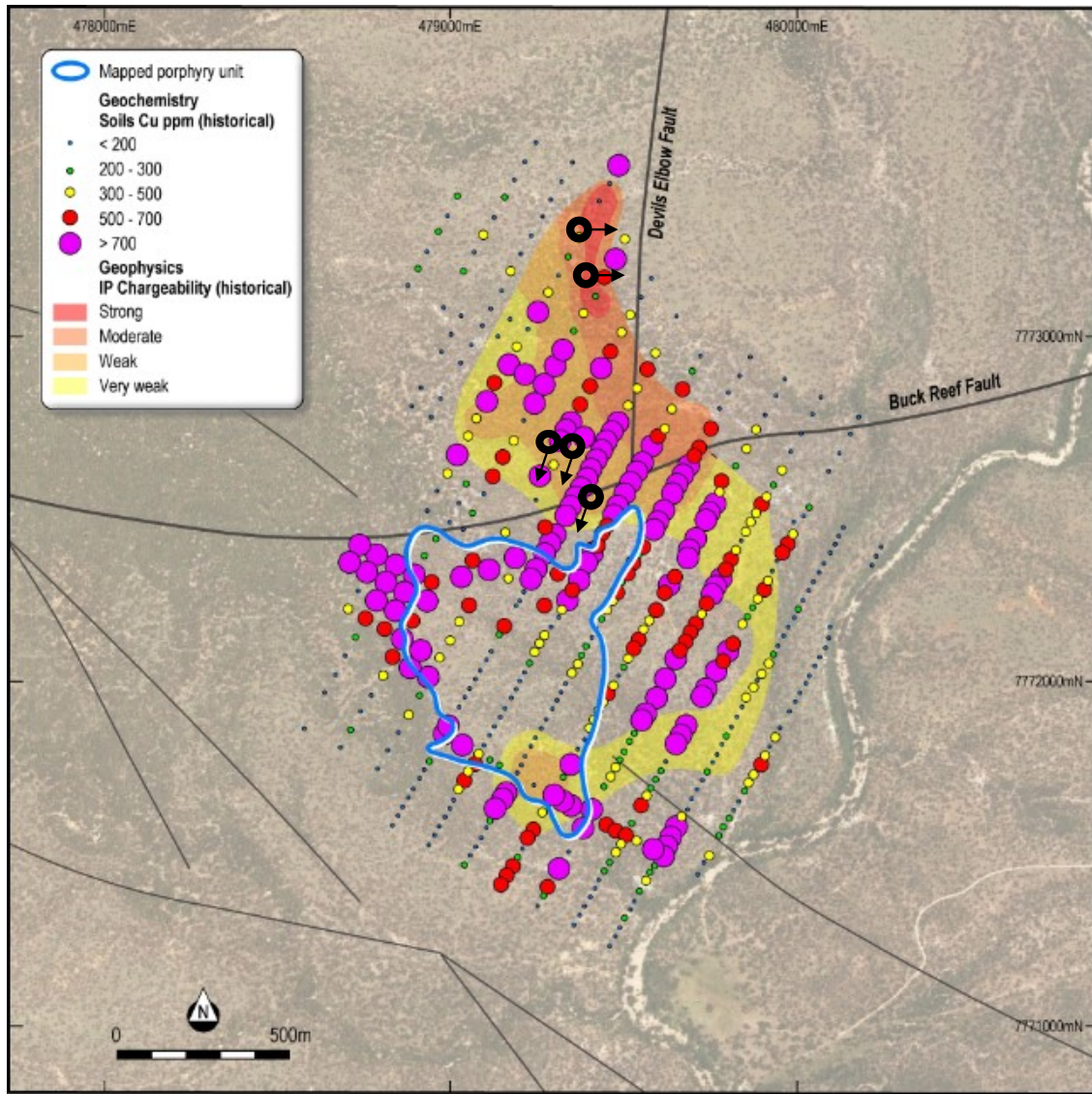


**Figure 3. 15km long Cu-Au-Ag-Mo corridor at Ravenswood West.**

Reconnaissance drilling (5 holes, 716m) is now complete and assays are expected in August 2022.

Two holes (22BKRC001-002) targeted a historical north-south trending IP anomaly (Figure 4) which coincides with a significant structure identified on regional magnetics (referred to as the Devil's Elbow Fault) and outcropping Mo-bearing quartz veins on surface. Both holes successfully intercepted hydrothermally altered granodiorite interspersed with zones of porphyry intrusive. Significant amounts of sulphide (principally pyrite, lesser chalcopyrite) were intercepted in broad intervals in both holes and were typically associated with sheeted quartz veins. It is likely that these sulphides are the cause of the chargeability anomaly.

The remaining three holes (22BKRC003-005) were drilled further south and targeted the geochemical anomaly around the porphyry intrusive (Figure 4). At this stage, drilling has only been conducted within the granodiorite body. The drilling intercepted intensively altered granodiorite (sericite through to potassic alteration) with variable amounts of sulphide (pyrite +/- chalcopyrite). The sulphides are seen as both vein-hosted and disseminated, with vein-hosted sulphides typically coarser and associated with sericite (-potassic) alteration.



**Figure 4. Cu in soil anomalism, IP chargeability, drill collars and the Bank porphyry (blue line).**

#### GEOPHYSICAL PROGRAMS, RAVENSWOOD WEST

Conventional Induced Polarisation (IP) surveys were completed at Gagarin and to the west of Titov.

The Gagarin porphyry Cu-Mo-Ag-Au prospect is located 8km southeast of Titov, within the 15km-long porphyry corridor which extends from Titov to the Bank (Figure 3). Sunshine Gold visited the prospect area in 2021 and identified Cu-stained rocks on surface in the central area grading up to 12.99 % Cu (GG010), 2.11 g/t Au (GG003) and 2,284 ppm Mo (GG005). Gagarin has been intermittently reviewed since the 1960s, with the most recent exploration consisting of 14 shallow RC drill holes in 1999, with the best reported intercept of 31m @ 0.32% Cu and 1,264 ppm Mo (GG004). Gold was intersected in some of the drill holes, including 3m @ 1.88 % Cu, 736 ppm Mo and 0.25 g/t Au (GG004). Drilling from this historic program however was limited to an average hole depth of just 43m and therefore Gagarin remains untested at depth. Furthermore, an untested veined zone exists in the south, which coincides with an area of low magnetics and high potassium radiometrics. Sunshine Gold rock samples from this area returned 10.60% Cu (GG014), 0.45g/t Au (GG013 & GG014) and 4,594ppm Mo (GG012).

An initial dipole-dipole IP survey was completed at Titov in February 2022. The survey consisted of five north-south trending lines designed to cover Titov Main and to cover an area of gold in soil anomalism to the east.

An extension to the initial survey has extended the IP coverage to the west of Titov, targeting a response along the Podosky Fault trend.

The initial IP survey successfully demonstrated that the Titov Main mineralisation appears to be associated with elevated chargeability, trending in an east-northeast orientation. Drilling in 2021 returned assays of up to 66m @ 2.10 % CuEq (21TVRC004). Significantly, the strongest IP chargeability response in the survey was immediately east of the most recent drilling and correlates to emerging high-grade zones in the foot wall and hanging wall of the Titov Main mineralisation.

#### **SOIL SAMPLING PROGRAMS, RAVENSWOOD WEST**

Soil sampling was undertaken at Elphinstone Creek rare-earth target (665 samples), Bank porphyry Cu-Au-Ag-Mo target (50 samples) and at Connolly Au target (108 samples).

Soil sampling at Elphinstone Creek has demonstrated that the Barrabas Adamellite is enriched in REE, with > 90% of the Barrabas Adamellite soil samples grading >400 ppm TREO. Despite the high overall TREO content of the soil samples over the Barrabas Adamellite, discrete zones of highly anomalous (>750 ppm TREO) are also observed. In general, TREO grades are highest in the west and north-east of the Barrabas Adamellite, centred around a zone of elevated magnetics (Figure 4).

Importantly, the average Neodymium + Praesodymium oxide (“Nd+Pr”) content of the TREO is 20.3%. Nd+Pr are used in permanent magnets and constitute an estimated 90% of global REE value.

Gold anomalism also appears to be focussed on Elphinstone Creek and may be related to drainage from the nearby Ravenswood Gold Mine. Further reconnaissance is required as soils up to 395 ppb Au appear unrelated to drainage and a historic rockchip sample grading 25.0 g/t Au is recorded near a small shaft in the Barrabas Adamellite.

Assays for the Elphinstone Creek soil sampling program will be reimbursed to a total of \$34,050 via a Collaborative Exploration Incentive grant from the Queensland Department of Resources. We acknowledge and appreciate the support of the Queensland Department of Resources.

A review of historical data at the Bank identified a coherent and highly elevated Cu (>700ppm) and Mo (>20ppm) in soil anomaly which forms a concentric anomaly around a mapped porphyritic intrusion. Sunshine Gold completed 50 broadly spaced, soil samples (800m x 200m spaced) in June 2022. This program was designed to provide a full suite of geochemical assays across the principal intrusive bodies within the Bank and to validate historical soil sampling anomalism.

The soil sampling program confirmed the location and tenor of the Cu and Mo anomalism identified in the historical data, with assays returning Cu in soil values of over 500ppm (up to 2,250ppm Cu) within the main anomaly. Gold is also elevated with assays up to 23ppb Au within a broader >10ppb Au zone of anomalism that correlates spatially to the Cu. Molybdenum and silver anomalism are tightly linked to copper spatially and returned assays up to 60ppm Mo and 0.85g/t Ag respectively.

Soil sampling commenced at the Connolly Au target in June 2022. The sampling was designed to delineate mineralised trends around historic workings at the north-eastern end of the Dreghorn corridor. A total of 108 samples have been collected and assays remain pending.

## TENEMENT INFORMATION

Project	Tenement	Status	Beneficial Interest
TRIUMPH	EPM 18486	GRANTED	100%
TRIUMPH	EPM 19343	GRANTED	100%
HODGKINSON	EPM 18171	GRANTED	100%
HODGKINSON	EPM 19809	GRANTED	100%
HODGKINSON	EPM 25139	GRANTED	100%
HODGKINSON	EPM 27539	GRANTED	100%
HODGKINSON	EPM 27574	GRANTED	100%
HODGKINSON	EPM 27575	GRANTED	100%
INVESTIGATOR	EPM 27343	GRANTED	100%
INVESTIGATOR	EPM 27344	GRANTED	100%
INVESTIGATOR	EPM 28369	APPLICATION	100%
RAVENSWOOD WEST	EPM 26041	GRANTED	100%
RAVENSWOOD WEST	EPM 26152	GRANTED	100%
RAVENSWOOD WEST	EPM 26303	GRANTED	100%
RAVENSWOOD WEST	EPM 26304	GRANTED	100%
RAVENSWOOD WEST	EPM 27824	GRANTED	100%
RAVENSWOOD WEST	EPM 27825	GRANTED	100%
RAVENSWOOD WEST	EPM 28237	APPLICATION	100%
RAVENSWOOD WEST	EPM 28240	APPLICATION	100%

### WESTERN AUSTRALIA COCKATOO IRON NL

Sunshine Gold holds 5,000,000 fully paid ordinary shares in Cockatoo Iron NL as a consequence of the sale of its interests in the Cockatoo Island Project. Cockatoo Iron NL is an unlisted company and also Pearl Gull Iron Limited's (ASX: PLG) largest shareholder, holding 43,250,001 fully paid ordinary shares, representing 43.24% of the total issued capital.

### CORPORATE SHAREHOLDER INFORMATION

As at 30 June 2022, the Company had 1,124 shareholders and 619,722,730 ordinary fully paid shares on issue with the top 20 shareholders holding 58.36% of the total issued capital.

## FINANCE AND USE OF FUNDS

Pursuant to the requirements of Listing Rule 5.3.4, the Company advises the proposed use of funds in section 1.6 of the Company's Prospectus in comparison to the actual use of funds is as follows:

Allocation of Funds	Prospectus	Current Quarter	Actual to Date
Exploration and evaluation (2years)	\$3,330,000	\$847,515	\$5,569,824
Working capital (2 years)	\$1,506,000	\$335,719	\$1,600,662
Expenses of Offer and XXXX Gold Acquisition	\$484,842	-	\$500,845

Pursuant to the requirements of Listing Rule 5.3.5, a description of and explanation for payments to related parties and their associates per Section 6.1 of the Appendix 5B following this Quarterly Activities Report is set out in the below table.

Director Remuneration	Current Quarter	Previous Quarter
Managing Director fees	\$66,550	\$60,500
Executive Director fees	-	-
Non-Executive Directors' fees	\$37,800	\$37,800
Company Secretarial fees	\$9,900	\$9,900
<b>Total payments to related parties of the entity and their associates</b>	<b>\$114,250</b>	<b>\$108,200</b>

## PLANNED ACTIVITIES

- August 2022: Results of IP surveys Gagarin and Titov - Ravenswood West
- August 2022: RC drill results from Bank, Titov North, Titov South, Titov Main - Ravenswood West
- August 2022: Wilburs Hill IP/MT survey results - Ravenswood West
- September 2022: Wilburs Hill and Bank follow up drilling - Ravenswood West
- September 2022: Electromagnetic & magnetic geophysical survey - Investigator
- September 2022: Audited Annual Financial Statements
- October 2022: Follow up RC drilling RC drilling- Southern & Northern Corridors - Triumph

**ENDS**

For further information:

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This ASX announcement is authorised for market release by the Board of Sunshine Gold.



*Competent Person's Statement*

*The information in this report that relates to Exploration Results is based on, and fairly represents, information compiled by Dr Damien Keys, a Competent Person who is a Member of the Australian Institute of Geoscientists (AIG). Dr Keys has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration, and to the activity being undertaken to qualify as a Competent Person as defined in the 2012 Edition of the JORC Code. Dr Keys consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.*

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## **ABOUT SUNSHINE GOLD**

Sunshine Gold is focused on its high-quality gold and copper projects in Queensland comprising a 100% interest in the Triumph, Hodgkinson, Investigator and Ravenswood West projects.

### ***Ravenswood West Gold-Copper-Rare Earth Project***

***(EPM 26041, EPM 26152, EPM 26303, EPM 26304, EPM 27824, EPM 27825: 100%)***

Ravenswood West is comprised of a significant holding (447 km<sup>2</sup>) of highly prospective gold-copper ground within 5 kms of the Ravenswood Mining Centre (6.6 Moz Au produced and in Resource). The Ravenswood Mining Centre was purchased by EMR Capital and Golden Energy & Resources Ltd. (SGX:AUE) in 2020 for up to \$300m and is presently subject to a ~\$450m upgrade. In addition, there are three other gold mills within 100 km, two of which are toll treating.

The Project is highly prospective for intrusion-related and orogenic gold, porphyry gold-copper-molybdenum and rare earth elements. Ravenswood West covers 20-25 km of strike along a major fault that links Pajingo (4 Moz) and Ravenswood (6.6 Moz) and contains numerous historic gold workings.

### ***Triumph Gold Project (EPM18486, EPM19343: 100%)***

Triumph is centred around the historical Norton gold field from which ~20,000 oz of gold was extracted between 1879-1941. The project is located 50km south of the mining hub of Gladstone and comprises tenements covering 138km<sup>2</sup>. Triumph is located within the Wandilla Province of the New England Orogen. Triumph contains 118koz of near surface Resource (March 2022). Nearby large gold deposits include Mt Rawdon (2.8 Moz Au), Mt Morgan (8 Moz Au and 0.4 Mt Cu) and Cracow (2 Moz Au). Triumph is a 15km<sup>2</sup> intrusion related gold system which has the potential to host both discrete high-grade vein deposits and large-scale, shear hosted gold deposits.

### ***Hodgkinson Gold Copper Project (EPM18171, EPM19809, EPM25139, EPM27539, EPM27574, EPM27575: 100%)***

Hodgkinson is located 100km northwest of Cairns in North Queensland. The project comprises tenements covering 365km<sup>2</sup>. The project is situated between the Palmer River alluvial gold field (1.35 Moz Au) and the historic Hodgkinson gold field (0.3 Moz Au) and incorporates the Elephant Creek Gold, Peninsula Gold-Copper and Campbell Creek Gold prospects. Hodgkinson has been extensively explored for tungsten, owing to its proximity to the Watershed and Mt Carbine tungsten deposits, but underexplored for gold. BHP-Utah International completed stream sediment sampling across the project in the late 1980's and confirmed that the area was anomalous in gold as well as tungsten.

### ***Investigator Copper Project (EPM27344, EPM27345: 100%)***

Investigator comprises tenements covering 115km<sup>2</sup>. It is located 110km north of Mt Isa and 12km south of the Mt Gordon Copper Mine. Investigator has seen no modern exploration and importantly, no holes have been drilled in the most prospective stratigraphic and structural positions.

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