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ASX Release

7 February 2024

Significant Increase in Liontown Resource

116% increase in Indicated Resource to 1.85mt (63% of total)

Highlights

- The Liontown JORC 2012 Mineral Resource ("Resource") has increased 21% to 2.94mt @ 10.6% ZnEq¹. This includes a 116% increase in Indicated Resources to 1.85mt @ 10.9% ZnEq, now 63% of the total Resource.
- The Resource contains a **10% increase in contained gold to 132koz Au** and **60% increase in contained copper to 29kt Cu**, further supporting Sunshine's recent Au-Cu focus.
- The upgraded Liontown Resource has increased the Ravenswood Consolidated Project's total Resource to 5.45mt @ 12.0% ZnEq¹, a 10% increase with the Indicated Resource now at 47% of the total.
- Drilling is underway at Liontown, targeting Au and Cu rich pumice breccia and feeder fault zones in the footwall zone of the Liontown Resource.

Sunshine Metals Limited (ASX:SHN, "Sunshine") has increased the Resource at its 100% owned Liontown deposit, part of the Ravenswood Consolidated Project by 21% to 2.94mt @ 10.6% ZnEq.

Sunshine Metals Managing Director, Dr Damien Keys, commented *"The extended and upgraded Liontown Resource is a substantial step forward for Liontown. The Resource is based on drilling since 2020 and includes the high-impact, first-pass drilling campaign completed in late 2023.*

Deposit	Lease Status	Resource Category	Tonnage (kt)	Gold (g/t)	Copper (%)	Zinc (%)	Silver (g/t)	Lead (%)	Zinc Eq. (%) *
Liontown Oxide	ML/MLA	Inferred	142	2.0	0.3	0.6	18	2.9	5.0
	ML/MLA	Total	142	2.0	0.3	0.6	18	2.9	5.0
Liontown	ML/MLA	Indicated	1,853	1.5	0.6	5.5	46	2.2	10.9
	ML/MLA	Inferred	948	1.2	1.8	3.3	20	0.9	10.6
		Total	2,801	1.4	1.0	4.8	37	1.8	10.8
Total Resource			2,943	1.4	1.0	4.6	36	1.8	10.6

Table 1: Resource for Liontown Au-Cu, Zn-Ag-Pb deposit, part of the Ravenswood Consolidated Project².

¹. The metal equivalent assumptions are unchanged from the 8 May 2023 announcement "Fully Funded Acquisition of Greater Liontown".

Recoverable zinc equivalent is calculated as per the formula on page 5. Supporting information for the Resource is shown at Attachment A. ² Differences may occur in totals due to rounding.



The overall Resource has increased 21% and features an impressive 116% increase in the Indicated category, now comprising 63% of the Liontown Resource. All of this has been achieved with an increase in grade.

Particularly encouraging is the growth in contained copper and gold which we began focusing on since taking control in September 2023. Drilling has recommenced at Liontown targeting an extension to the gold-rich pumice breccia zone hosting intersections including **17m @ 22.05 g/t Au** (23LTRC002) and **8m @ 10.65 g/t Au** (LTDD22055). A copper-rich lens and/or potential feeder fault zone is also being tested in the footwall zone of the Carrington Lode with nearest holes grading **4.65m @ 5.48% Cu, 2.05 g/t Au** from 188m & **2.35m @ 3.75% Cu** from 197m (LTDD19029) and **6m @ 4.49% Cu** from 252m (LTDD19008).

Aside from the gold-copper footwall lodes currently being drilled, Resource growth opportunities remain in the under-drilled 400m "Gap Zone" between Liontown and the 1.47mt @ 11.0% ZnEq Liontown East Resource.

We are excited with the progress we have made since taking control and look forward to further Resource growth in 2024."



Figure 1: Ravenswood Consolidated showing Sunshine's tenements and large mines in the district.



Extended and Upgraded Liontown Resource

In May 2023, Sunshine announced the acquisition of Greater Liontown (including the Liontown, Liontown East, Waterloo and Orient deposits). On-ground activities commenced after gaining control in September 2023 with a clear focus on Au-Cu at Liontown. Specific activities in relation to Liontown have included:

- logging and assaying of 5,904m of acquired diamond core;
- a geological reinterpretation of Liontown targeting high-grade Au and Cu zones resulting in the identification of three conceptual feeder zones (Main Feeder, Carrington Feeder and the Gap Zone Feeder);
- completion of a first pass 13-hole RC/diamond (1,515m) drill program which successfully confirmed the Main Feeder and highlighted the importance of the gold-rich pumice breccia zone;
- completion of a Resource extension and upgrade which included 108 holes drilled since the 2020 Resource.

Based on these activities, the Liontown Resource has **increased 21% to 2.94mt @ 10.6% ZnEq**³. This includes a **116% increase in Indicated Resources to 1.85mt @ 10.9% ZnEq**, now 63% of the total Resource (Figure 2).

Deposit	Resource Category	Tonnage (kt)	Zinc Eq. (%)	Contained Gold (oz)	Contained Copper (t)	Contained Zinc (t)	Contained Silver (oz)	Contained Lead (t)
Liontown Oxide	Inferred	142	5.0	9,176	454	895	84,414	4,146
	Total	142	5.0	9,176	454	895	84,414	4,146
Liontown	Indicated	1,853	10.9	86,384	11,674	102,656	2,725,572	40,951
	Inferred	948	10.6	36,879	17,159	31,568	610,188	8,342
	Total	2,801	10.8	123,264	28,833	134,225	3,335,759	49,294
Total Resource		2,943	10.6	132,440	29,287	135,119	3,420,174	53,440

Table 2: Total Resource by contained metal and category. Recoverable zinc equivalent is calculated as per the formula on page 5. Supporting information for the Resource is shown at Attachment A.

Pleasingly, the Resource contains a **10% increase in contained gold to 132koz Au** and **60% increase in contained copper to 29kt Cu**, further supporting Sunshine's recent Au-Cu focus.

³ Recoverable ZnEq calculation on page 5. The metal equivalent assumptions are unchanged from the 8 May 2023 announcement "Fully Funded Acquisition of Greater Liontown".



The Resource increase at Liontown has increased the Ravenswood Consolidated Project's total **Resource to 5.45mt @ 12.0% ZnEq**¹, a 10% increase with the Indicated Resource now at 47% of the total.

Deposit	Resource Category	Tonnage (kt)	Zinc Eq. (%)	Contained Gold (oz)	Contained Copper (t)	Contained Zinc (t)	Contained Silver (oz)	Contained Lead (t)
Liontown Oxide	Inferred	142	9.51	9,176	454	895	84,414	4,146
	Total	142	9.51	9,176	454	895	84,414	4,146
Liontown	Indicated	1,853	10.94	86,384	11,674	102,656	2,725,572	40,951
	Inferred	948	10.63	36,879	17,159	31,568	610,188	8,342
	Total	2,801	10.84	123,264	28,833	134,225	3,335,759	49,294
Liontown East	Inferred	1,470	10.96	34,226	7,190	109,862	1,378,395	37,133
	Total	1,470	10.96	34,226	7,190	109,862	1,378,395	37,133
Waterloo	Indicated	402	23.40	17,778	10,595	53,596	874,195	8,491
	Inferred	271	9.26	3,574	2,093	18,498	206,504	2,082
	Total	673	17.71	21,352	12,687	72,094	1,080,699	10,573
Orient	Indicated	329	15.20	2,137	3,517	35,772	581,002	8,212
	Inferred	32	17.74	237	273	4,640	52,470	704
	Total	361	15.43	2,373	3,790	40,412	633,472	8,916
Total Resource		5,447	11.99	190,391	52,954	357,487	6,512,740	110,062

Table 3: Ravenswood Consolidated total Resource displaying contained metal by deposit and category. Recoverable zinc equivalent is calculated as per the formula on page 5. Supporting information for the Resource is shown at Attachment A.

For the avoidance of doubt, this Resource upgrade only includes drilling completed at Liontown since 2020. Excluded from this Resource upgrade are Liontown East, Waterloo and Orient.



Liontown - Strong Potential for Future Growth

There is a high level of prospectivity at Liontown, in the immediate surrounds (especially footwall) and regionally. Sunshine has revised the Liontown geological model, specifically around metal distribution and zonation, structure and detailing the footwall lithologies.

The result of the revised geological model highlights growth targets at:

- Liontown Footwall 3 potential feeder fault zones identified (Main Feeder, Carrington Feeder and the Gap Zone Feeder) and prospective pumice breccia stratigraphic units becoming more copper enriched to the north.
- The under-drilled 400m "Gap Zone" between Liontown (Figure 3) and the 1.47mt @ 11.0% ZnEq Liontown East Resource (~400m strike length). Limited drilling in the Gap Zone provides encouragement for Au-rich zones with intersections including:
 - o 3.9m @ 7.53 g/t Au, 3.15% Cu, 2.02% Zn & 28 g/t Ag from 416.9m (LTDD18012)
 - 7.75m @ 2.70 g/t Au from 293.3m (LTDD18013); and
- The under-explored Liontown East footwall. High-grade drill intersections not currently included in the Liontown East Resource include:
 - o 7.7m @ 3.4 g/t Au, 1.2% Cu from 557m (LTED07)
- The Tigertown and Cougartown prospects located ~1km west of Liontown. There is only sparse, shallow drilling at the two prospects and in the zone between the prospects and Liontown. However, the limited drilling at the prospects is encouraging and includes:
 - o 17m @ 3.05 g/t Au from 22m (LLRC003), Tigertown
 - o 33m @ 1.95 g/t Au from 12m (MWR037), Tigertown
 - o 2m @ 1.81 g/t Au, 9.54% Zn, 2.06% Pb from 54m (LCP501), Cougartown

Another drilling campaign has commenced at Liontown, targeting conceptual feeder fault targets that are expected to be Au-Cu rich portions of the system. An IP geophysical survey will commence in February 2024, focussing on the orientation of footwall sulphide zones at Liontown. The drilling and geophysical surveys will be overlain to refine footwall targets ahead of a larger drill program to commence at Liontown in April 2024.

Recoverable Zinc Equivalent calculation

The zinc equivalent grades for Greater Liontown (% ZnEq) are based on the following prices: US\$2,500t Zn, US\$8,500t Cu, US\$2,000t Pb, US\$1,900oz Au, US\$20oz Ag. Metallurgical metal recoveries are supported by metallurgical test work undertaken and are: 88.8% Zn, 80% Cu, 70% Pb, 65% Au, 65% Ag.

The ZnEq calculation is as follows: ZnEq = (Zn grade% * Zn recovery) + (Cu grade % * Cu recovery % * (Cu price \$/t/ Zn price \$/t)) + (Pb grade % * Pb recovery % * (Pb price \$/t/ Zn price \$/t * 0.01)) + (Au grade g/t /31.103 * Au recovery % * (Au price \$/oz/ Zn price \$/t)) + (Ag grade g/t /31.103 * Ag recovery % * (Ag price \$/oz/ Zn price \$/t * 0.01)).

For Waterloo transition material, recoveries of 76% Zn, 58% Cu and 0% Pb have been substituted into the ZnEq formula. For Liontown oxide material, recoveries of 44% Zn, 40% Cu and 35% Pb have been substituted into the ZnEq formula. Further metallurgical testwork is required on the Liontown oxide domain. It is the opinion of Sunshine and the Competent Person that the metals included in the ZnEq formula have reasonable potential to be recovered and sold.





Figure 2: Long section of current Resource categorization at Liontown showing Resource tonnage and drilling density by depth. The clear implication being the greater the drill density, the greater the Resource.





Figure 3: Long section of current Resources at Liontown and Liontown East highlighting clear growth potential between the two deposits, west of Liontown and at depth.



Liontown Resource - Supporting Information

Geology and Geological Information

Greater Liontown (Liontown, Liontown East, Waterloo and Orient)

The Liontown, Liontown East, Waterloo and Orient deposits are located in the prospective Seventy Mile Range Group volcano-sedimentary sequences of the Cambro-Ordovician-age Mt Windsor Subprovince. These rocks host VMS-style massive sulphide deposits in the Charters Towers region. Principal amongst the VMS deposits are the Thalanga group of deposits including Waterloo, Liontown, Magpie and Highway-Reward.

The Mt Windsor Sub-province forms an east-west trending belt extending for about 165km from the Leichardt Range, south of Ravenswood in the east, to Homestead in the west. Rocks of the subprovince have been extensively intruded and dismembered along the northern margin by emplacement of the Ordovician to Permian Ravenswood Batholith and Lolworth Igneous Complex. To the south they are overlain by the Devonian to Carboniferous Drummond Basin succession.

A discontinuous cover of Tertiary alluvium, Campaspe Formation, obscures much of the terrane, particularly in the central and western parts of the belt.

The volcanic and sedimentary rocks of the Mt Windsor Sub-province are assigned to the Seventy Mile Range Group and comprise, from oldest to youngest, the Puddler Creek Formation, Mt Windsor Formation, Trooper Creek Formation and Rollston Range Formation. The succession has a minimum thickness of 14km, but the true thickness of the succession is poorly constrained due to structural complexities, particularly in the Puddler Creek Formation (Henderson, 1986; Doyle, 1997). Regional metamorphism increases from prehnite-pumpellyite facies in the east, to greenschist facies around Highway-Reward, to amphibolite facies in the westernmost parts (Berry et al, 1992). Regional metamorphic assemblages have been overprinted by contact metamorphic aureoles around granitic intrusive.

The Puddler Creek Formation is dominated by clastic sediments and has a minimum thickness of 9km (Henderson, 1986). Rhyolite dykes and sills, mostly in the upper parts of the formation, are interpreted as possible feeders to the overlying volcanic-dominant formations (Berry et al, 1992).

The Mt Windsor Formation is dominated by rhyolite lavas, domes and volcaniclastic facies with minor dacite and rare andesite and varies in thickness from a minimum of around 300-400m in the west, to 5km in the east (Simpson, 2001). The formation is absent north of Highway-Reward where the Puddler Creek Formation is conformably overlain by the Trooper Creek Formation (Doyle, 1997).

The Trooper Creek Formation mainly comprises basaltic, andesitic, dacitic and rhyolitic lavas, intrusions and volcaniclastic rocks and well-bedded mudstone and ranges in thickness from 4km in the central part of the sub-province, to a minimum of 500m along the Thalanga Range to the west (Henderson, 1986).

Liontown and Liontown East

The mineralised systems of Liontown and Liontown East occur within units of the Trooper Creek Formation. The deposit stratigraphy is dominated by a footwall sequence of rhyodacite pumice



breccia (footwall), grading through a series of interbedded schistose, dacitic volcaniclastics and sediments into a hangingwall sequence of capping cherts and arenites.

The Pumice Breccia unit hosts both VMS and structure related quartz \pm Cu \pm Au mineralisation which occur super-imposed on each other in places. The unit also hosts chalcopyrite-quartz-pyrite \pm chlorite stringer veining and the New Queen mineralisation. The New Queen mineralisation is discussed separately.

- <u>Structural mineralisation, the Carrington Lode</u> a continuous planar shear hosting echelon quartz-Au± Cu veins, generally 1m wide with strikes to 15m and dipping steeply to the south. The shear changes in nature depending on host rock. This mineralisation was previously mined in Carrington workings at Liontown, and can be extended west, east and as copper rich mineralisation at depth.
- <u>The Gap Lode –</u> sub-seafloor replacement massive, sphalerite and galena. Relic rock within the massive sulphide indicates hydrothermal fluids exploited a porous siltstone/tuff unit at the top of a pumice breccia flow near completely replacing it. VMS has been crosscut by later quartz Au-Cu bearing veining forming a plunging lode of Cu-Au-Zn-Pb. The hanging and footwalls are intensely sericite-chlorite altered.
- <u>Western Footwall Lode</u> Mineralisation is similar to the Gap Lode with semi-massive sphalerite dominated sulphides that have been cross cut by quartz-chalcopyrite veins. The footwall of the lode is variable quartz-sericite-chlorite altered with rare sphalerite-galena stringers and upwards of 10% chalcopyrite-pyrite stringer veins.

The New Queen Horizon of interbedded schistose dacitic volcaniclastics and sediments is found within the top of the Pumice Breccia sequence. It hosts the New Queen Lens, a complex body of massive to semi massive VMS mineralisation.

The Liontown Horizon is a conformable transition from PBX into finer grained mixed volcanic sedimentary units at the upper boundary of the Pumice Breccia. The horizon hosts the Liontown Main Lens system which comprises three (Upper, Central and Lower) sheet like "primary" VMS sulphide lodes as well as fine grained remobilised sulphides occurring disseminated to cleavage fill. Mineralisation occurs in variable intensities from disseminations to massive sulphides as a fine (0.1-6mm) cleavage-controlled layering of low iron sphalerite-pyrite-galena-tetrahedrite-tennantite-chalcopyrite sulphides, interspaced with barite-chlorite-sericite-carbonate layers. Mineralisation is also present as rotated blocks of massive sulphide that are distinctively preserved and lacking the intense schistosity of the host sequence.

- <u>Upper Lens</u> 270m strike x 240m vertical extent & 0.5m to 4m thickness mineralisation has an overall banded appearance near the stratigraphic top of the Liontown Horizon. Banding consists primarily of sphalerite-galena-carbonate-barite and is interpreted to be deposited by exhalation of hydrothermal fluids onto the seafloor. Where shearing occurs, banding is often disjointed. Compared to the Central and Lower lenses, the upper lens has elevated Au and Ag.
- <u>Central Lens</u> 170m strike x 130m vertical extent & 0.5m and 7.5m thickness located in the central portion of the Liontown Horizon. Moderately to strongly sheared with increased chlorite content.
- <u>Lower Lens</u> 500m strike 380m vertical extent & 0.5m to 8m thickness The most continuous lens within the Main Lens system resting on or within 5m of the Liontown Horizon-Pumice



Breccia contact. Mineralisation is dominated by massive and semi-massive, low iron sphalerite with minor galena and chalcopyrite and trace amounts of tennantite and tetrahedrite (Miller, 1996). The lower lens has a strong calcite-sphalerite ± barite association and elevated manganese up to 2% (Miller, 1996). Banding is rare to absent. Primary textures have been modified by deformation but features favour formation as near seafloor replacement. The Lens is occasionally crosscut by chalcopyrite bearing quartz-carbonate veins with pyrite halos which have exploited the weakness of the lithological contact, raising the chalcopyrite-pyrite content of the lens.

Sampling and sub-sampling techniques

Geological logging was carried out applying industry standard practices. RC samples were collected on a 1m interval and split using a rig-mounted cone splitter to collect samples of 3-5kg in size. Drill core was sampled to mineralised boundaries and sawn in half longitudinally while onsite with sample lengths targeting 1m with 97.5% of sample ranging from 0.3 to 2.0m. The samples from 2016 to 2022 drilling programs were sent to Intertek Laboratories in Townsville for analysis. Samples from 2022 to 2023 were sent to ALS Laboratories in Townsville for analysis.

Hole count and metre count of samples intersecting the mineralised domains is shown below for each respective drill program:

Program	Hole Count	Metre Count
Nickel Mines (1970 - 1973)	50	711
Esso (1982 – 1983)	25	274
Great Mines Limited (1987)	43	623
Pancontinental (1994)	8	100
Pancontinental (1994 – 1996)	26	341
Liontown Resources (2007 - 2008)	35	269
Red River Resources (2017 – 2022)	124	30,041
Sunshine (2023)	13	1,515

Drilling techniques

Diamond drilling (DD) and reverse circulation (RC) techniques were used to obtain samples during 8 major drilling programs between 1970-2023:

Program	Year	Drilling Method
Nickel Mines	1970-1973	DD
Esso	1982-1983	DD
Great Mines	1987	RC
Pancontinental	1994	DD
Pancontinental	1994-1996	RC
Liontown Resources	2007-2008	DD
Red River Resources	2017-2022	RC / DD
Sunshine	2023	RC / DD



Classification Criteria

The Resources have been reported above a 5% ZnEq. Cut-off, a value considered appropriate for potential economic extraction (as used for mining parameters at the nearby Thalanga mines).

Resources have been classified according to the sample spacing and demonstrated continuity and consistency of the mineralised thickness and grade for each lode. A higher confidence in sample data is given to more recent drilling programs and used as Points of Observation for classification. Typically, the lodes are classified as Indicated where sufficient continuity of samples <50m spacing is present. Indicated and Inferred blocks have been reported.

At Liontown East, material considered not sufficiently defined for Inferred classification includes lesser Zn-Pb-Cu stringer sulphide mineralisation of undetermined continuity below the footwall contact of the current Resource and Cu-Au mineralisation within the footwall pumice breccia. The Cu-Au mineralisation has similarities to the Carrington Lode along strike at the Liontown deposit. Further drilling at closer spacing may provide sufficient continuity for Resource in these areas.

Due to the age of some data and the multiple project owners, complete records are not always available. In these circumstances, lower confidence is placed on the results and is reflected in the Resource classification. In general, the drilling programs overlap spatially allowing for the comparison of programs between each other and eliminating the dominance of one sampling program in any specific area of the Resource.

Sample analysis method

Between 2016 and 2022, drill core samples were sent to Intertek Laboratories in Townsville. Samples from 2022 to 2023 were sent to ALS Laboratories in Townsville for analysis. Samples were crushed to sub-6mm, split and pulverised to sub-75 µm in order to produce a representative sub-sample for analysis. Analysis consisted of a four-acid digest and Inductively Coupled Plasma Optical Emission Spectrometry for the following elements: Ag, As, Ba, Bi, Ca, Cu, Fe, K, Mg, Mn, Na, Pb, S, Sb, Ti, Zn & Zr. Samples were assayed for Au using a 25g Fire Assay technique. Standards were submitted at an overall rate of 1 in 20 with greater than 90% of results for mineralised standards returning within 3 standard deviations of certified values for Zn, Pb, Cu and Ag.

For earlier sampling programs, industry practices of the day were applied. In general, samples were crushed to sub-6mm, split and pulverised to sub-75 μ m in order to produce a representative sub-sample for analysis. Most samples were analysed following a three or four-acid digest by either Atomic Absorption Spectrum (AAS) or Inductively Coupled Plasma Optical Emission Spectrometry for the base metal analysis. For gold analysis, a fire assay method using either a 25g, 30g or 50g charge with an AAS finish was used.



Estimation methodology

Geological and geochemical interpretation including sectional assessment of hangingwall and footwall strata was undertaken and 3D wireframes of the mineralised domains were created. The mineralised domains are defined by continuous and consistent mineralisation style and grade continuity.

The New Queen domains are similar but contain a larger portion of sheared and low-grade mineralisation. The Gap, Carrington and Western Footwall domains are modelled with Au and Cu as the dominant mineralisation style. A 0.5 g/t Au domain was used for estimation of the oxide Au Resource.

The Resource for Liontown was undertaken using inverse distance and ordinary kriging estimation methods depending on data availability for the generation on variograms and 3D estimation software.

The Resource for Liontown East was undertaken using inverse distance estimation methods and 3D estimation software. 3D wireframes of the mineralised envelope were filled with modelled blocks of appropriate size. Drill samples were top capped where appropriate to reduce the impact of extreme high-grade samples. Samples were composited to 1m to reduce sample size bias. Estimation of copper, zinc, lead, silver, gold, iron and barium grades in the model blocks was undertaken using sample limitations and octant requirements to reduce sample distribution bias. Multiple increasing search distances for sample selection were used. The mineralised domain envelopes were considered a hard boundary for estimation purposes.

Cut-off grades, including the basis for the selected cut-off grades

The sulphide ("fresh") Resource has been reported above a 5% ZnEq cut-off into Inferred and Indicated categories. The basis for cut-off grade is that a 5% ZnEq grade was assessed as the lower cut-off for definition of potential economic mineralisation using a proposed underground mining methodology.

The oxide Inferred Resource has been reported above a 0.5 g/t Au cut off as this is assessed as appropriate for the mineralisation style and the likelihood of providing a potentially economic, shallow open pit. The oxide Inferred Resource is shallow and located above the sulphide lodes and further drilling may allow conversion of this material to an Indicated Resource.

Mining and metallurgical methods and parameters, and other material modifying factors considered

Density values were reviewed for each lode and non-mineralised waste rock across fresh, transitional, and oxide material. These density values were applied to the block model for the various zoned types. The density calculation incorporates void and porosity influences through an assigned gangue density.



The density calculation was validated by a regression assessment against empirical test work on the Liontown and Liontown East core following the Archimedes principle. The densities are reported on a dry basis.

The Resource has been estimated with the intent of being mined by selective mining methods such as underground drive development and long hole stoping techniques. For conversion to Ore Reserve, material that is sub 2m thick will require a higher cut-off grade to accommodate the additional minimum mining width dilution. Approximately 5% of the reported Resource is of sub-2m thickness and no exclusion of this material has been made.

It is assumed that the Resource would be treated via crushing, milling and conventional flotation to produce concentrates containing Zn, Pb, Cu, Ag and Au. Historic metallurgical test work exists across all deposits and recoveries are used in the zinc equivalent calculation. The historical metallurgical test work was optimised for the existing Thalanga Mill. Further test work is planned, particularly with respect to the liberation of gold prior to conventional flotation. Ore sorting may also be applicable.

Planned activities.

The Company has a busy period of activity ahead including the following key activities and milestones:

- February 2024: Geophysical surveys commence, Liontown & Truncheon
- February 2024: Results from geophysical surveys, Liontown & Truncheon
- Feb-March 2024: Results from drilling, Liontown Au-Cu

Attending:

- February 2024: RIU Explorers Conference, Fremantle
- o March 2024: Brisbane Mining Investor Conference



Sunshine's Board has authorised the release of this announcement to the market.

For more information, please contact:

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Competent Person's Statement

The information in this report that relates to Exploration Results is based on, and fairly represents, information compiled by Mr Matt Price, a Competent Person who is a Member of the Australian Institute of Geoscientists (AIG) and the Australian Institute of Mining and Metallurgy (AusIMM). Mr Price 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. Mr Price consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

The information in this report that relates to Mineral Resources at Liontown is based on information compiled and reviewed by Mr Andrew Dawes who is a Member of the Australian Institute of Geoscientists (AIG) and the Australian Institute of Mining and Metallurgy (AusIMM). Mr Dawes 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 'Australasian Code for Reporting of Mineral Resources. Mr Dawes consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

The information in this report that relates to Mineral Resources at Waterloo and Orient is based on information compiled and reviewed by Mr Stuart Hutchin, who is a Member of the Australian Institute of Geoscientists (AIG) and is a Principal Geologist employed by Mining One Pty Ltd. Mr Stuart Hutchin 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 'Australasian Code for Reporting of Mineral Resources. Mr Stuart Hutchin consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

The information in this report that relates to Mineral Resources at Liontown East is based on information compiled and reviewed by Mr Peter Carolan, who is a Member of the Australasian Institute of Mining and Metallurgy and was a Principal Geologist employed by Red River Resources Ltd. Mr Peter Carolan 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 'Australasian Code for Reporting of Mineral Resources. Mr Peter Carolan consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.



About Sunshine Metals

Two projects. Big System Potential.

Ravenswood Consolidated Project (Zn-Cu-Pb-Au-Ag-Mo): Located in the Charters Towers-Ravenswood district which has produced over 20Moz Au and 14mt of VMS Zn-Cu-Pb-Au ore. The project comprises:

- o a Zn-Cu-Pb-Au VMS Resource of 4.94mt @ 12.0% ZnEq (32% Indicated, 68% Inferred);
- 26 drill ready VMS Zn-Cu-Pb-Au IP geophysical targets where testing of a similar target has already led to the Liontown East discovery which hosts a current Resource of 1.47mt @ 11.0% ZnEq (100% Inferred);
- the under-drilled Carrington Au Lode in the footwall of the Liontown VMS deposits with significant intersections including 3m @ 46.2 g/t Au from 20m (LRC0018) and 2m @ 68.6 g/t Au from 24m (LRC0043);
- advanced Au-Cu VMS targets at Coronation analogous to the nearby Highway-Reward Mine (4mt @ 6.2% Cu & 1.0 g/t Au mined);
- overlooked orogenic, epithermal and intrusion related Au potential with numerous historic gold workings and drill ready targets; and
- o a Mo-Cu Exploration Target at Titov of 5-8mt @ 0.07-0.12% Mo & 0.28-0.44% Cu⁴.

Triumph Project (Au): More than 85% of Triumph's Inferred Resource of 118,000oz @ 2.03 g/t Au⁵ (100% Inferred) is <100m deep and largely located within 1.2km of strike within a 6km long trend. Recent drilling has confirmed Triumph's intrusion-related gold system is analogous to the large Ravenswood Mine (5.6Moz Au Resource).

**Investigator Project (Cu):* Located 100km north of the Mt Isa, home to rich copper-lead-zinc mines that have been worked for almost a century. Investigator is hosted in the same stratigraphy and similar fault architecture as the Capricorn Copper Mine, located 12km north.

**Hodgkinson Project (Au-W):* Located 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.

*A number of parties have expressed interest in our other quality projects (Investigator Cu and Hodgkinson Au-W). These projects will be divested in an orderly manner in due course.

⁴ Cautionary statement: The Exploration Target has been prepared and reported in accordance with the 2012 edition of the JORC Code. The potential quantity and grade of the Exploration target is conceptual in nature. There has been insufficient exploration to estimate a Mineral Resource. It is uncertain if further exploration will result in the estimation of a Mineral Resource. Exploration Target for Titov based on several factors discussed in the corresponding Table 1 which can be found with the original ASX release 21 March 2023 "Shallow High Grade Titov Cu-Mo Exploration Target".

⁵ SHN ASX Release, 31 March 2022, "Robust Maiden Resource at Triumph Gold Project". No new information has been collected and all material assumptions remain unchanged.







Section 1 - Sampling Techniques and Data

Criteria	Explanation			Commentary		
Sampling techniques	Nature and quality of sampling (e.g. cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under	 Diamond drilling (DD) and Reverse circulation (RC) techniques were used to obtain samples during 13 programmes of drilling undertaken between 1970 and 2023. The company, year, drilling method, hole count, and metres drilled count is outlined below. 				
	investigation, such as down hole gamma sondes, or handheld XRF instruments, etc.). These examples should	Programme	Year	Drilling Method	Hole Count	Metre Count
	not be taken as limiting the broad meaning of sampling.	Nickel Mines	1970-1973	DD	50	711
		Esso	1982-1983	DD	25	274
	representivity and the appropriate calibration of any	Great Mines Limited	1987	RC	43	623
	measurement tools or systems used.	Pancontinental	1994	DD	8	100
	Aspects of the determination of mineralisation that are	Pancontinental	1994-1996	RC	26	341
	Material to the Public Report. In cases where 'in dustry standard' work has been done this would be relatively simple (e.g. 'reverse circulation drilling was	Liontown Resources	2007-2008	DD	35	269
		Red River Resources	2017	DD	4	578.
	pulverised to produce a 30 g charge for fire assay'). In	Red River Resources	2018	RC/DD	23	10252
	other cases, more explanation may be required, such as where there is coarse gold that has inherent sampling	Red River Resources	2019	DD	34	5281
	problems. Unusual commodities or mineralisation types	Red River Resources	2020	MR	8	412
	detailed information.	Red River Resources	2021	DD	14	4510
		Red River Resources	2022	RC/DD	41	9008
		Sunshine Metals (SHN)	2023	RC/DD	13	1515
		 Industry standard preanalysed following a Inductively Coupled Fanalysis. For gold anafinish was used. For the Red River Red 	eparation and ana three or four acid Plasma Optical Er alysis a fire assay sources drilling p	lysis methods were digest by either via nission Spectrome method using eithe rogram the followir	e used. Majority of a Atomic Absorpti try (ICP-OES) for er 25g, 30g or 50g ng apply:	f the samples were on Spectrum (AAS) or the base metal g charge with an AAS



Criteria	Explanation	Commentary
		 Sample intervals were selected by company geologists based on visual mineralisation and geological boundaries with an ideal sample length of one metre. Samples were sawn if half or quarter onsite using an automatic core saw. Independent certified assay laboratories were used for analysis. 2019 sampling was analysed at Intertek Genalysis Laboratory in Townsville where samples were crushed to sub 6mm, split and pulverised to sub 75µm and a sub sample collected for a four-acid digest and Inductively Coupled Plasma Optical Emission Spectrometry (ICP-OES) analysis of the following elements; Ag, As, Ba, Bi, Ca, Cu, Fe, K, Mg, Mn, Na, Pb, S, Sb, Ti, Zn, & Zr. Samples were assayed for Au using a 30g Fire Assay technique.
		 SHN – RC drill holes were sampled as individual, 1 m length samples from the rig split. Individual metre samples were collected as a 12.5% split collected from the drill rig. Individual RC samples were collected in calico sample bags and grouped into green plastic bags for dispatch (approximately five per plastic bag). One diamond tail hole has been completed. The drill hole collared as an RC drill hole, before switching to HQ3 diamond drilling for completion of the hole. The hole was sampled in full as half core, with sample intervals selected by the SHN Geologist. The samples were sawn longitudinally in half using the onsite core saw. SHN samples are analysed at Australian Laboratory Services (ALS) in Townsville where samples were crushed to sub 6mm, split and pulverised to sub 75µm. A sub sample was collected for a four-acid digest and ICP-OES/MS analysis of 61 elements, including Ag, Cu, Pb and Zn. Samples were assayed for Au using a 50g Fire Assay technique. Assays over 100g/t Au using this technique were reassayed using gravimetric analysis. Ba over 1% was re-analysed using XRF. A number of batches were sent to Adelaide for full processing and analyses due to capacity limits in Townsville.
Drilling techniques	Drill type (e.g. core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc.) and details (e.g. core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc.).	 Conventional and wireline diamond drilling techniques were used through the various programs. Red River core sizes are NQ and HQ with selected holes orientated. Reverse circulation holes were between 4 ¼ and 5 ½ inch sizes. SHN – Reverse circulation drilling utilising an 8inch open-hole hammer for first 10m (pre-collar) and a 5.5inch RC hammer for the remainder of the drill hole. Diamond tail holes were drilled as per RC, before switching to HQ3 sized drill core until end of hole.



Criteria	Explanation	Commentary
Drill sample recovery	Method of recording and assessing core and chip sample recoveries and results assessed. Measures taken to maximise sample recovery and ensure representative nature of the samples. Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.	 Core loss was recorded as part of the geological logging. Records available for the 2019 onwards diamond program indicate that recovery within the sulphide ore zones was > 97%. Similar results were achieved from the 2018 and 2007 drill programs. Notable core loss occurs within shear zones or high structure zones. Core loss in the oxide mineralised domains was significant with a recovery of 65% achieved. This recovery generates uncertainty for the estimated Oxide resource. SHN - RC sample recoveries of less than approximately 80% are noted in the geological/sampling log with a visual estimate of the actual recovery. Very few samples were recorded with recoveries of less than 80% and in two cases these did include samples within the interpreted ore zone (i.e. 45 – 47m in 23LTRC008; 29 – 30m in 23LTRC006). Significant mineralized intercepts did not include these low recovery intervals. Moisture categorisation was also recorded. No significant zones of wet RC samples were recovered from within the mineralised intervals reported in 23LTRC002. Drill holes 23LTRC001 was notably wet and low recovery, and as such was twinned utilising a RC/diamond tail hole 23LTRD001. Minor zones of core loss were reported within 23LTRD001, totalling 3.1m (or 4.48%), one of which was within the proposed mineralised zone at 106.7 – 107.m. No significant intercepts reported extend over core loss intervals.
Logging	Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies. Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc.) photography. The total length and percentage of the relevant intersections logged.	 The following logging was completed on the drill holes: Qualitative logging includes lithology, alteration and textures. Quantitative logging includes visual estimate of sulphide and gangue mineral percentages. All drill core from 2007 onwards was photographed. Drill holes were logged in full where cuttings or core were recovered. Holes were logged to a level of detail to support this Mineral Resource Estimation. Any inconsistencies in logging or log availability is reflected in the Mineral Resource classification.
Sub- sampling techniques and sample preparation	If core, whether cut or sawn and whether quarter, half or all core taken. If non-core, whether riffled, tube sampled, rotary split, etc. and whether sampled wet or dry. For all sample types, the nature, quality and appropriateness of the sample preparation technique.	 Reverse circulation samples were split onsite and sent for assay. Diamond core was placed in core trays for logging and sampling. Diamond core was cut in half for the majority of programs using a core saw. Sample intervals were either nonselective or sampled to geological boundaries. The nonselective nature of the Esso diamond drill program and the RC sample programs produces a degree of smoothing to this data which is expected. 98% of sample length is within 0.3 and 2m in length and 78% between 1 and 2m in length. Sample programs containing higher proportion of shorter length sample intervals display greater



Criteria	Explanation		Commentary		
	Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples. Measures taken to ensure that the sampling is representative of the in-situ material collected, including for instance results for field duplicate/second-half sampling. Whether sample sizes are appropriate to the grain size of the material being sampled.	 variance as expected. The sample sizes are considered to be sufficient to correctly represent the mineralisation style. Sample methods specific to each program is shown below: 			
		Programme	Sampling Method		
		Nickel Mines	Half core (hand split) – sampled to contacts predominately 1 or 5ft length. Imperial lengths were subsequently converted to metric for the database.		
		Esso	Half core (core saw) – non selective samples predominantly 1m length.		
		Great Mines Limited	RC Split – non selective samples predominately 1m length.		
		Pancontinental	Half core (core saw) – selective samples predominantly 1m length.		
		Pancontinental	4 $\frac{1}{4}$ to 5 $\frac{1}{2}$ inch RC split – non selective samples predominantly 1m length.		
		Liontown Resources	¹ / ₂ NQ2 core (core saw) – samples to contacts predominantly 1m length.		
		Red River Resources	¹ / ₂ NQ2 core (core saw) – samples to contacts predominantly 0.5 to 1m length.		
		Red River Resources	¹ / ₂ NQ2 core, ¹ / ₂ HQ3 core and ¹ / ₄ HQ3 core (core saw) – samples to contacts predominantly 0.5 to 1m length.		
		Sunshine Metals	, ½ HQ3 core and ¼ HQ3 core (core saw) – samples to contacts predominantly 0.5 to 1m length. 5.5inch RC split using a rig-mounted cone splitter on 1m intervals to obtain a sample for assay, of approximate weight 3 – 5kg.		
		Records for sample prepa	aration and analysis for programs pre 2007 are limited.		
		In general samples were	crushed to sub 6mm, split and pulverised to sub 75µm in order to		
		 produce a representative Most samples were apply 	sub-sample for analysis.		
		Spectrum (AAS) or Induc	tively Coupled Plasma Optical Emission Spectrometry (ICP-OES) for the		



Criteria	Explanation	Commentary
		 base metal analysis. For gold analysis a fire assay method using either a 25g, 30g or 50g charge with an AAS finish was used. Analysis of all Red River samples consisted of a four-acid digest and Inductively Coupled Plasma Optical Emission Spectrometry (ICP-OES) for the following elements; Ag, As, Ba, Bi, Ca, Cu, Fe, K, Mg, Mn, Na, Pb, S, Sb, Ti, Zn, & Zr was undertaken. A selection of samples was also assayed for Au using a 25g Fire Assay technique. SHN samples are analysed at Australian Laboratory Services (ALS) in Townsville where samples were crushed to sub 6mm, split and pulverised to sub 75µm. A sub sample was collected for a four-acid digest and ICP-OES/MS analysis of 61 elements, including Ag, Cu, Pb and Zn. Samples were assayed for Au using a 50g Fire Assay technique. Assays over 100g/t Au using this technique were re-assayed using gravimetric analysis. Ba over 1% was re-analysed using XRF. A number of batches were sent to Adelaide for full processing and analyses due to capacity limits in Townsville.
Quality of assay data and Laboratory tests	The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total. For geophysical tools, spectrometers, handheld XRF instruments, etc., the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc. Nature of quality control procedures adopted (e.g. standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e. lack of bias) and precision have been established.	 The assay methods employed are considered appropriate for near total digestion of the economic and deleterious elements in the orebody. Various degrees of Quality Assurance and Quality Control processes were implemented through the different drilling programs. Records post 2007 programmes are available. Red River Resources protocol involved the use of Blanks, and Standard Reference Material inserted at a rate of 1 in 20. Certified standards returned results within an acceptable range. No field duplicates were submitted for diamond core. SHN protocol utilized Blanks, Field Duplicates and Certified Reference Material (CRMs) inserted at a rate of 1 in 10. All CRMs were sourced from reputable industry suppliers OREAS and Geostats Pty Ltd. Field duplicates were collected as a second split direct from the rig (RC) and as quarter core (duplicate) against the half core original sample (DD). Blank material comprised of play sand sourced from a local hardware store. Approximately 0.5kg was inserted into a numbered bag and entered into the sample stream. A review of CRM samples from the SHN drill program in 2023 concluded that there is potential under-reporting of Au grades in some areas, notably in 23LTRC004 and 23LTRC009. Some select zones will be re-assayed as validation checks. All base metal CRMs were deemed accurate. No significant contamination was reported from blank material. Repeatability for gold was deemed adequate with 60% of field duplicates repeating within a 10% HARD and base metals were deemed highly repeatable returning an 80% repeatability within 10% HARD.



Criteria	Explanation	Commentary
Verification of sampling and assaying	The verification of significant intersections by either independent or alternative company personnel. The use of twinned holes. Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols. Discuss any adjustment to assay data	 Laboratory results were reviewed by Company geologists and laboratory technicians as well as previous Competent Persons for the Liontown Resource area. A series twin holes were carried out by Esso on original Nickel Mines holes. Red River holes also twin previous drilling. In these twinned holes the replication of mineralised width and grade were reasonable. Scans off or original logging sheets for the majority of drill programs are available. Au and Ag results for Nickel Mines holes were excluded from the Resource estimation. These were originally identified by Esso as likely erroneous, and similarly considered by all following parties. SHN - Diamond tail hole 23LTRD001 has twinned RC drill hole 23LTRC001, the latter which showed significantly wet samples in a zone reporting 5m @ 3.31g/t Au from 104m (using a 0.5g/t Au cut-off). Hole 23LTRC001 was designed to twin historic hole LLRC187 which reported significantly wet and compromised samples that assayed 11m @ 97.9/t Au from 91m (using a 1.0g/t Au cut off), which are not reported nor used by SHN. The diamond tail hole 23LTRD001 reported assays comparable to that seen in 23LTRC001, assaying 2m @ 3.84g/t Au from 107m and will be the results reported by SHN.
Location of data points	Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation. Specification of the grid system used. Quality and adequacy of topographic control.	 All Red River collars were surveyed with RTKGPS. This included resurveying of available historic collars (105, limited to post 2007 drilling) in total. SHN drilled holes have been located using a handheld GPS within GDA94, Zone 55 format. Downhole surveys were conducted with an industry-standard gyroscopic survey tool. Collar locations will be digitally surveyed by DGPS at a later date. Recent down hole surveys conducted with digital magnetic multi-shot camera at 20-40m intervals. Historic drill hole surveys were taken using Eastman single shot cameras. Coordinate system used is MGA94 Zone 55. Topographic control is based on a detailed 3D Digital Elevation Model. A 20m sterilization buffer zone was generated around the digitised workings of the historic Carrington Mine. The digitised workings were generated from historic level plans and survey pick up of surface shaft locations in the previous resource and provided for use as sterilization for the current Mineral Resource.



Criteria	Explanation	Commentary
Data spacing and distribution	Data spacing for reporting of Exploration Results. Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied. Whether sample compositing has been applied.	 The distribution of drilling provides drill intersection spacings of: 10 - 40m for majority of New Queen Lode 20 - 70m for the Main Lens upper sections 60 - 100m for the Inferred area of the Main Lode 15 - 70m for the Western Footwall Lode 15 - 150m for the Gap Lode The drill spacing provides evidence of mineralized zone continuity for the purposes of resource estimation and is reflected in the classification level. Samples were composited within the mineralisation interpretation. See Section 3.
Orientation of data in relation to geological structure	Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type. If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.	 Where possible holes were orientated to ensure drill intersections were approximately perpendicular to the strike of the ore lenses and overall geological sequence. Dip intersections to the plane of mineralisation generally occur between 45° and 80°. The orientation of the multiple lenses varies resulting in some intersections being less than perpendicular. Attempts to correct this during interpretation are made but is considered minor for the majority of the drilling. The effect of local sampling biases due to orientation and spacing of drill holes is mitigated in the estimation process.
Sample security	The measures taken to ensure sample security.	 During 2018 – 2022 programmes, samples were overseen by company staff during transport from site to Laboratories. Sample security for earlier programs cannot be validated. SHN – RC drill samples were collected by the Drill Contractor and then collected on site by the SHN Field Technician. The sample was then validated against a pre-prepared sample sheet to ensure the sample matched the correct interval. Samples were then collected into groups of five and placed in a labelled polyweave bag. The samples were then dispatched from site directly to the lab by SHN field personnel. Diamond core samples are collected at the time of cutting by the SHN Field Technician and validated against a pre-prepared sample sheet. In both cases, samples were then collected into groups of five and placed in a labelled polyweave bag. The samples were then collected against a pre-prepared sample sheet. In both cases, samples were then dispatched from site directly to the lab by SHN Field Technician and validated against a pre-prepared sample sheet. In both cases, samples were then collected into groups of five and placed in a labelled polyweave bag. The samples were then dispatched from site directly to the lab by SHN field personnel.



Criteria	Explanation		Commentary
Audits or reviews	The results of any audits or reviews of sampling techniques and data.	•	Data review for resource estimation was completed by Mining One Consultants was completed in November 2015. A review of the assay data was completed by McDonald Speijers Consultants in 2008. Earlier data reviews were carried out and documented by the various previous owners of the project.

Section 2 - Reporting of Exploration Results

(Criteria listed in the preceding section also apply to this section.)

Criteria	Explanation		Commentary
Mineral tenement and land tenure status	Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings. The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.	•	Greater Liontown Exploration Permits are: EPMs 10582, 12766, 14161, 16929, 26718, 27168, 27221, 27223, 27357, 27520 and 27731 and Mining Lease Applications 100221, 100290 and 100302 (previously Cromarty) for a total of 463km2; and EPMs 18470, 18471, 18713, 25815 and 25895 (previously Hebrides) for a total of 221km2. The tenements are in believed to be in good standing and no known impediments exist. These leases are now held in their entirety by Sunshine (Ravenswood) Pty Ltd, a 100% owned subsidiary of Sunshine Metals Ltd. The Thalanga mill and mining operation was abandoned by administrators to Red River Resources. A restricted area has been placed over the mill, dumps and tailings facilities. The Queensland Department of Environment is now responsible for the rehabilitation of the aforementioned facilities. There are no known other Restricted Areas located within the tenure. Five third-party Mining Leases are present exist on these Exploration Permits – named MLs 1571, 1734, 1739 and 10028 (Thalanga Copper Mines Pty Ltd) and 100021 (Clyde Ian Doxford). Liontown, Waterloo and the majority of tenure exist on the native land of the Jangga People #2 claim, with northwestern tenure located on the native land of the Gudjala People. A 0.8% Net Smelter Return (NSR) royalty is payable to Osisko Ventures Ltd and a 0.7% NSR royalty payable to the Guandong Guangxin Mine Resources Group Co Ltd (GMRG) on sale proceeds of product extracted form EPM 14161.



Criteria	Explanation	Commentary
Exploration done by other parties	Acknowledgment and appraisal of exploration by other parties.	 Exploration activities have been carried out by Nickel Mines (1970-1973), Esso (1982-1983), Great Mines (1987), Pancontinental (1994-1995), Liontown Resources (2007) and Red River Resources (2018-2019). Work programmes included surface mapping and sampling, costeans, drilling and geophysics sufficient to support previously declared Mineral Resources. Exploration activities have been carried out by Nickel Mines (1970-1973), Esso (1982-1983), Great Mines (1987), Pancontinental (1994-1995), and Liontown Resources (2007). Work programs included surface mapping, and sampling, costeans, drilling and geophysics.
Geology	Deposit type, geological setting and style of mineralisation.	 The Liontown and Liontown East deposits are hosted within Cambro-Ordovician marine volcanic and volcano-sedimentary sequences of the Mt Windsor Volcanic sub-province. The Liontown and Liontown East deposits are volcanogenic massive sulphide (VMS) base metal style deposits, which typically are exhibited as lense-like massive to stringer sulphides comprised of sphalerite, galena, chalcopyrite and pyrite. The main lenses are in and around the contact a sequence of marine sediments and a rhyodacite pumice breccia. SHN is currently focussing on the zonation of the deposit, with aim of identifying potential Cu-Au rich zones which could represent feeder zones to the overlying stratiform sulphide lenses.
Drill hole Information	 A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes: easting and northing of the drill hole collar elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar dip and azimuth of the hole down hole length and interception depth hole length. If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case 	 This resource estimate is a reinterpretation and estimation of the Red River Resources 2020 Mineral Resource for Liontown published on the ASX in March 2020. Reinterpretation includes review of the drill hole data and incorporation of Red River Resources and Sunshine Metals Ltd drilling since the previous estimation. Recent exploration drill results have been published in Sunshine Metals Ltd's ASX releases. The interpretation and estimation of potentially economic mineralisation is based on 8 drilling programmes by 7 companies over a period spanning 50 years. Drill intersections from 294 drill holes were used in the estimation 13 of which were drilled by Sunshine Metals Ltd.



Criteria	Explanation	Commentary
Data aggregation methods	In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (e.g. cutting of high grades) and cut-off grades are usually Material and should be stated. Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail. The assumptions used for any reporting of metal equivalent values should be clearly stated.	 Not applicable as new exploration results are not being reported. For all exploration results, see previous Sunshine Metals' ASX releases. See Section 3 – Estimation and Modelling Techniques, cut-off parameters, and metal equivalents.
Relationship between mineralisation widths and intercept length	These relationships are particularly important in the reporting of Exploration Results. If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported. • If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (e.g. 'down hole length, true width not known').	 The mineralisation is interpreted to be dipping at approximately 75 degrees towards 180 degrees bearing. A variety of drill hole angles have been drilled with the majority intercepting the strike of mineralisation perpendicular and the plane of mineralisation at angles between 90 and 45 degrees. True widths of intercepts are likely to be between 40 to 80% of the down hole widths. Lode mineralisation widths are generally between 1 and 8m true width. Sample lengths are most commonly 1m of downhole length. Note some smaller true widths are observes to assist in controlling mineralisation interpretation. These areas are considered in the classification.
Diagrams	Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.	Refer to plan and section figures within this announcement.
Balanced reporting	Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.	 No exploration results are reported here. The application of estimation reduces anomalous grade bias in the representation of mineralisation interpretation of Liontown.



Criteria	Explanation	Commentary
Other substantive exploration data	Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.	 All meaningful exploration data has been included in the estimation process and reported in this announcement and associated Table 1.
Further work	The nature and scale of planned further work (e.g. tests for lateral extensions or depth extensions or large-scale step-out drilling). Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.	 Further drilling will be required to test geological interpretation and targeting of additional lenses, potential Au-rich feeder structures and to provide more data within the Gap for future resource definition. Possible Induced Polarisation geophysics may be undertaken to assist with delineation of footwall lenses and cross-cutting structures. Metallurgical test work will be undertaken in due course for future processing plant trials and designs.

Section 3 - Estimation and Reporting of Mineral Resources

(Criteria listed in section 1, and where relevant in section 2, also apply to this section.)

Criteria	Explanation	Commentary
Database integrity	Measures taken to ensure that data has not been corrupted by, for example, transcription or keying errors, between its initial collection and its use for Mineral Resource estimation purposes. Data validation procedures used.	 A cross-check of the laboratory issued analytical certificates with the assay database provided for SHN data was completed. This included checks on primary fields for the Mineral Resource Estimate such as sample number and grade to ensure complete matches. No errors were found between the laboratory certificates and the provided database for the SHN holes with approximately 40% of the SHN samples scrutinised. The previous drilling and analysed data relied on the review and inclusion of the results from the previous Competent Persons. Issues highlighted in the database by these previous parties were reviewed and confirmed for the current Mineral Resource Estimate.
Site visits	Comment on any site visits undertaken by the Competent Person and the outcome of those visits.	• The Competent Person has not visited the site for the current Mineral Resource Estimate due to adverse weather conditions effecting Eastern Queensland (cyclones). Access is limit to the site currently. A future site visit will be completed once access is suitable. Core photos were available and reviewed by the



Criteria	Explanation	Commentary
	If no site visits have been undertaken indicate why this is the case.	Competent Person.
Geological interpretation	Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit. Nature of the data used and of any assumptions made. The effect, if any, of alternative interpretations on Mineral Resource estimation. The use of geology in guiding and controlling Mineral Resource estimation. The factors affecting continuity both of grade and geology	 Mineralised boundaries for the current resource estimate have been determined on mineral grades from both RC and DD holes. Categorised box plots were used to determine the diamond core logged lithology, alteration, and mineralisation relative to mineralisation to ensure a grade derived mineralisation boundary was reflective of the field observations of mineralisation. A First pass interpretation of Zn + Pb dominate zones was completed followed up a Cu + Au zones. These were then compared and combined as appropriate to reflect the interpretation of stacked mineralized lodes. A final check on boundary domains was completed on the Zn Eq value calculated on the drilling samples (Zn Eq outlined below). This was to ensure that no excessive waste was included internally in the wireframes. The top and bottom of mineralised intercepts in drill holes have been interpreted and support continuity of the wireframe that represent the enclosed mineralisation boundaries. These 3D solid wireframes (lodes) were created from selected intervals using the Geological Model tool in Seequent Leapfrog Geo (Leapfrog). Factors effecting continuity of grade and mineralisation is related to the pinching nature of the VMS lenses. Similarly, continuity of structures can be observed in the drilling, but are not supported by assay results which results in a termination one lode and development of another along strike in line with results in the assay database. Limited recent data has been collected on the Oxide domains which are shown the mineralized. Interpretation of these domains reflect the confidence and coverage of data available. The area that has been mined out is excluded from this interpretation and estimation.
Dimensions	The extent and variability of the Mineral Resource expressed as length (along strike or otherwise), plan width, and depth below surface to the upper and lower limits of the Mineral Resource.	 An East-West striking and moderately (70°) south dipping sequence occurs and is interpreted as 16 separate lodes. The Main lode consists of 3 stacked narrow lenses (domains 102 103 and 104) hosted within sediments, above and conformable to a Sediment to Pumice Breccia contact. Below the Sediment to Pumice Breccia contact within the Pumice Breccia occurs the New Queen domains. The New Queen area contains a broad moderate grade domain (201) which is slightly flatter at 65° dipping to the south. In the footwall of the New Queen area are the lesser 203 and 407 footwall lodes. Along strike to the west is the copper dominant 406 and 408 footwall lodes which extent westward to the edge of the interpreted mineralisation. The eastern gold dominated lodes including 202 and 205 (as well as the lesser footwall lodes 404 and 409) extent to the eastern extend of the interpreted mineralisation. Two oxide specific zones are defined as 411 and 412. Dimensions for the interpreted mineralisation is outlined in the table below.



Criteria	Explanation	Commentary				
		Lode	Length (m)	Width (m)	Average Thickness (m)	
		102	600	310	3.50	
		103	350	240	2.50	
		104	510	270	1.75	
		112	250	100	4.25	
		201	390	250	12.5	
		202	260	140	4.50	
		203	410	250	5.00	
		204	190	140	2.50	
		205	160	150	5.50	
		404	260	350	2.75	
		406	240	230	1.50	
		407	540	330	3.75	
		408	310	280	2.25	
		409	170	120	1.00	
		411	220	35	5.00	
		412	160	60	1.75	
Estimation	The nature and appropriateness of the estimation technique(s) applied and key assumptions, including treatment of extreme grade values, domaining, interpolation parameters and maximum distance of extrapolation from data points. If a computer assisted estimation method was chosen include a description of computer software and parameters used.	 The estimation Mineralised wi orientations, an Wireframe dor used. To limit the effi intervals. This applied approp Where anomal estimate search 	n model was constr reframes were dev and joining lodes to nains were used as ect of any anomalo was reviewed for e priately for each du ously high grade zo th ellipses were res	ucted using Leapfr eloped by sectiona form enclosed min s hard boundaries usly high results, t ach element (Ag, / ring estimation. ones did show loca stricted around high	rog Geo and Edge moc al interpretation, review leralisation domains. to constrain the estima op cuts were applied to Au, Cu, Pb, and Zn) act al continuity, the top cu h results so as to not in	lule version 2023.2.1. of the controlling geological te and 1m composites were the composited sample ross each of the lodes and uts were raised higher, but the offuence the surrounding blocks



Criteria	Explanation	Commentary
	The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data. The assumptions made regarding recovery of by-products. Estimation of deleterious elements or other non-grade variables of economic significance (eg sulphur for acid mine drainage characterisation). In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed. Any assumptions behind modelling of selective mining units. Any assumptions about correlation between variables. Description of how the geological interpretation was used to control the resource estimates. Discussion of basis for using or not using grade cutting or capping. The process of validation, the checking process used, the comparison of model data to drill hole data, and use of reconciliation data if available.	 beyond reasonableness. Typically, these search restrictions were 25-50% of the search range. A multi pass estimation hierarchy was developed for each lode and all lodes were estimated via Inverse Distance to a power. For all pass 1 estimators, Inverse distance to the power of 3 was used to help maintain local variability around samples. Passes 2-4 (as required) were estimated with Inverse Distance 2 at varying range increases so to estimate all blocks of interpreted mineralisation. Each lode used variable search orientation which was derived from the centre line of each lode and used as the variable search parameter. Comparison with ordinary kriging and nearest neighbour estimates was undertaken to ensure no estimation bias and the Competent Person is satisfied with the performance of the hierarchy Inverse Distance parameters, considering that the lodes present planar shapes with relatively uniformly spaced drilling data, is representative for this level of drilling density. Extrapolation of mineralisation is constrained by the wireframes to generally 10-40m maximum beyond the last drill hole. Blocks were estimated on a 25m x 10m x 10m block model with a 16x16x16 octant sub-blocking for capturing the detail around the mineralised wireframes. All estimators are applied on a sub-block level. The estimation process was validated by comparing global block grades with the average composite grades on a lode by lode basis, visual checks comparing block model volume, and comparison of composites and block grades in X, Y, and Z orientations via swath plots. The validation steps completed show that the block estimates are representative of the source assay data and that the block model volumes are valid in comparison to the modelled interpretation.
Moisture	Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.	 The resource tonnages have been estimated on a dry basis.



Criteria	Explanation	Commentary
Cut-off parameters	The basis of the adopted cut-off grade(s) or quality parameters applied.	 A cut-off grade of 5% Zn Eq has been used to report resources. This was chosen as the lower limit of potentially economically extractable material within an underground mining operation in this style of deposit. It is in line with previous resources reported by RVR (and restated by SHN) within the Greater Liontown district. The following was used for the Zn equivalent cut-off grade: Zn recovery and price: 88.8% and US\$2,500/t Ag recovery and price: 65.0% and US\$20/t Oz Au recovery and price: 65.0% and US\$1,900/t Oz Cu recovery and price: 80.0% and US\$8,500/t Pb recovery and price: 70.0% and US\$2,000/t
		 Calculation in the model is shown below: Zn Eq = (Zn_Pct * 0.888) + (Ag_g/t * 0.0321507 * 0.65 * (20/2500*100)) + (Au_g/t * 0.0321507 * 0.65 * (1900/2500*100)) + (Cu_Pct * 0.80 * (8500/2500)) + (Pb_Pct * 0.70 * (2000/2500)) The recovery parameters for the oxide were reduced for Zn, Pb, and Cu to 44%, 35% and 40% respectively due to the oxide zone interpretation impacting recoverable metal. The Oxide resource is reported at 0.5g/t Au cut-off. These minor oxide components are envisioned to compliment an operating underground mine as small satellite pits.
Mining factors or assumptions	Assumptions made regarding possible mining methods, minimum mining dimensions and internal (or, if applicable, external) mining dilution. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential mining methods, but the assumptions made regarding mining methods and parameters when estimating Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the mining assumptions.	 The anticipated Liontown mining method for extraction of the majority of the Mineral Resource is via underground long hole stoping techniques on 20m level spacing. Potential for an initial Open cut, mining the Oxide Au and shallow parts of the sulphide Resource to a limited depth is also an option. The minimum mining width is approximately 2m and while some lodes present thin interpretations, they are considered a potential for extraction with their proximity to adjacent lodes reducing development costs to access potential ore. The mining process would involve level development at which time, geological mapping, face sampling and underground drilling would be required for grade control. This data would be used to refine the mineralised domains and to create a grade control/short term mining model from which final stope designs could be generated.



Criteria	Explanation	Commentary
Metallurgical factors or assumptions	The basis for assumptions or predictions regarding metallurgical amenability. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential metallurgical methods, but the assumptions regarding metallurgical treatment processes and parameters made when reporting Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the metallurgical assumptions made.	 The assumed processing is via crushing and milling and conventional flotation to produce separate Zn, Pb and Cu concentrates. Au and Ag is recovered within the concentrates as payable elements. Further metallurgical test work will be required to confirm the processing metrics of the ore material and ore sorting may be applicable. Previous production has shown that a saleable concentrate can be produced from the Greater Liontown style ores. Metallurgical Recoveries are derived from test work on Liontown samples and the known metallurgical recoveries of ores in the area. Processing of the Oxide Au would require a gravity and leaching process. Further metallurgical work for the successful processing of the Oxide would be required specifically for the base metal component.
Environmental factors or assumptions	Assumptions made regarding possible waste and process residue disposal options. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider the potential environmental impacts of the mining and processing operation. While at this stage the determination of potential environmental impacts, particularly for a greenfields project, may not always be well advanced, the status of early consideration of these potential environmental impacts should be reported. Where these aspects have not been considered this should be reported with an explanation of the environmental assumptions made.	 Government approvals would need to be obtained for mining at Liontown. Department of Environment approvals will also need to be sort for tailings storage and mine waste rock storage. Waste rock would likely be required as stope fill following ore extraction. Mining Lease applications have been submitted over the Liontown deposits. Note that this is a previously disturbed site with contemporary mining of the Liontown deposits by previous operators and as such provides a precedent to mining over the existing disturbance footprint.
Bulk density	Whether assumed or determined. If assumed, the basis for the assumptions. If determined, the method used, whether wet or dry, the frequency of the measurements, the nature, size and representativeness of the samples. The bulk density for bulk material must have been measured by methods that adequately account for void spaces (vugs, porosity, etc),	 The bulk densities of samples representative of the ore and waste rock types were measured using the Archimedes method, that is (Dry Weight / (Dry Weight – Wet Weight). Densities across the mineralisation and waste were reviewed, outliers reviewed and filtered, and density values for the following zones were applied: Oxide mineralised zone: 2.35 g/cc Transition mineralised zone: 2.35 g/cc Fresh mineralised zone: 2.95 g/cc



Criteria	Explanation	Commentary
	moisture and differences between rock and alteration zones within the deposit. Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.	 Oxide waste zone: 2.24 g/cc Transition waste zone: 2.46 g/cc Fresh waste zone: 2.77 g/cc A default background of 2.50g/cc was applied to any non-estimated blocks to ensure all blocks have mass.
Classification	The basis for the classification of the Mineral Resources into varying confidence categories. Whether appropriate account has been taken of all relevant factors (ie relative confidence in tonnage/grade estimations, reliability of input data, confidence in continuity of geology and metal values, quality, quantity and distribution of the data). Whether the result appropriately reflects the Competent Person's view of the deposit.	 The resources have been classified according to the sample spacing and confidence in the modelled continuity of both the thickness and grade of the mineralized. Both Indicated and Inferred blocks have been reported. No Measured is classified within this resource. There is additional unclassified inventory that can be upgraded with additional drilling. The resource classification is deemed appropriate in relation to the drill spacing and geological continuity of the mineralized domains. Each of the lodes was assessed for drill hole spacing, and the Competent Person delineated the boundary of sufficient geological continuity (confidence) to classify blocks as Indicated. Typically, the drill hole spacing for the classification of Indicated is 50m across the lodes but was reviewed on a lode by lode basis. Classification is applied to the ore blocks only, no waste is classified. The classification appropriately reflects the Competent Persons confidence of the estimate of the ore body, that being that there is sufficient geological evidence to imply grade and tonnes for Indicated classification. And that there is sufficient geological evidence to imply grade and tonnes for Inferred classification.
Audits or reviews	The results of any audits or reviews of Mineral Resource estimates.	 The Liontown Resource is an updated Resource, previously estimated by various parties. Recently collected additional data has been incorporated into the estimate which has increased the area of definition, Resource size and refined the accuracy of the estimate. New drill hole data has not drastically changed the fundamentals of the interpretation. A cross check of this updated interpretation and grade estimate on a lode by lode basis was completed against the previous estimates. Considering the new drilling incorporated into the current Mineral Resource Estimate, the interpretation (orientation etc) is similar. There is a material change (>10%) in tonnes and grade between this current and previous resources which is related to new drilling and is expected. No recent external reviews or audits have been carried out on the 2024 Mineral Resource however previous Mineral Resources were subject to review.



Criteria	Explanation	Commentary
Discussion of relative accuracy/ confidence	Where appropriate a statement of the relative accuracy and confidence level in the Mineral Resource estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the resource within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors that could affect the relative accuracy and confidence of the estimate. The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used. These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.	 The global resource estimate is deemed to be an accurate reflection, to the precision allowable via the current data spacing of both the geological interpretation and the deposits potentially economic tonnage and grade distribution at a reported cut-off grade of 5% Zn Eq. Within the Resource model, local smoothing of grade occurs with the estimation process. Comparison between the input composites and resultant blocks was reviewed as part of the modelling process and deemed appropriate. Selective in-fill drilling from surface and updated geological interpretation and modelling in 3D will add further confidence to the local scale geometry of the mineralisation and grade distributions in the resource model. The detail captured in this mineral resource estimate maximises the data available currently on the project and the Competent Person is satisfied that the model is representative of the drilling data available to date.



