

3 June 2020

ASX Market Release (ASX: AMG)

Material	Indicated			Inferred						
	Tonnes	Au g/t	Au Oz	Tonnes	Au g/t	Au Oz	Tonnes	Au g/t	Au Oz	Cut-of
Oxide	289,000	2.66	24,700	240,000	1.97	15,200	529,000	2.35	39,900	0.5g/1 Au
Fresh	374,000	2.22	26,700	807,000	1.81	46,900	1,180,000	1.94	73,500	
Total	663,000	2.41	51,400	1,047,000	1.84	62,000	1,710,000	2.06	113,400	

# Mt Freda Complex Global JORC Resource Estimate

 Table 1. Mt Freda Complex Global Gold JORC Mineral Resource estimate included Mt Freda, Comstock, Falcon, Shamrock & Little Duke

 projects, (Discrepancies may occur due to rounding).

# The Mt Freda Complex Global Mineral Resource estimate confirms multiple resources, mineralised from surface highlighting the potential for a multiplt mining hub.

## **Highlights:**

- Maiden Mineral Resource Estimate has been defined within the Mt Freda Complex for a total of 1.7 Mt at 2.06 g/t Au, containing 113,000 Oz of Gold
  - The JORC Resource has been estimated over the following Ausmex Cloncurry Gold projects:
    - Mt Freda Open Cut Gold Mine (Granted Mining Leases)
    - Golden Mile ML100201 mines Falcon, Shamrock, Comstock and Little Duke
- The Mineral Resource estimate highlights that gold mineralisation extends from surface, with the potential to develop a multi-pit gold mining hub at Cloncurry, targeting gold ore processed via third party CIP processing facilities utilizing current haul road infrastructure in place.
- Previous cyanide leach test work for gold completed by Amdel for QMC in 2012 using Mt Freda ore produced high yields above 90%. The previous operator of Mt Freda, Diversified Mineral Resources reported CIP recoveries of up to 95% for gold.
- The Company has a binding agreement where all ore produced from the Golden Mile must be processed at the Round Oak Minerals Limited Great Australia Mine 600 ktpa ore processing facility in Cloncurry.
- The Mineral Resource estimate for the Mt Freda Pit has additional upside as numerous historical high-grade gold drill holes did not meet the JORC (2012) reporting requirements and were not used in the estimate.
- The Company is now focused on completing current scoping studies for the Mt Freda Complex to assess mining and processing options available in Cloncurry.
- The Company is focusing on near term gold production to fund additional drilling to upgrade and potentially extend known mineralisation.
- A second Mining Lease application will be submitted for the Little Duke gold resource, cementing the region as a central mining hub.
- The Company has a strong cash position to advance the Complex following the sale of the Gilded Rose Gold project for \$4 million. (*Refer ASX release 25<sup>th</sup> May 2020*)

## **Mt Freda Gold complex**



**Figure 1.** Mt Freda Complex project location plan including Mt Freda pit, Comstock, Falcon, Shamrock and Little Duke gold mines. Note the second ML planned application area surrounding Little Duke that will solidify the Complex into a significant Mining Hub.

Ausmex Mining Group (ASX: AMG) ("Ausmex" or "The Company") is pleased to announce the estimation of Maiden JORC (2012) resources for the Mt Freda Complex.

The combined Global estimation for the Complex includes the Mt Freda pit, as well as the Golden Mile Joint Venture projects including Comstock, Falcon Shamrock, and Little Duke. The Golden Mile is a joint venture with Round Oak Minerals Limited (80% AMG:20% RO). Round Oak Minerals is a 100% owned subsidiary of Washington H Soul Pattinson & Company Limited (ASX:SOL).

The Mineral Resource estimate for Mt Freda, Comstock, Falcon and Shamrock was completed by Mr Paul Tan, B. Eng Hons MAusIMM following the construction of an access database and utilizing Surpac modelling software.

The Little Duke Resource estimate was completed by Mr Murray Hutton, MAIG following the construction of an access database and utilizing Micromine software.

The resource estimates for each project are described below in Tables 2 – 7 .

The estimates were based on an amalgamation of recent drilling completed by Ausmex and Queensland Mining Corporation (QMC), as well as historical drilling. Consideration has been given to the previous mining history and ore processing of the projects including reviewing Queensland Mines Department mining records, and reports completed by the previous Mt Freda operator, Diversified Mineral Resources, (DMR).



**Figure 2.** Mt Freda Complex location plan including the second ML application over the Little Duke project. Note the current haul road infrastructure facilitating access to multiple gold processing facilities.

		Indicated			Inferred			Total			
Deposit	Material	Tonnes	Au g/t	Au Oz	Tonnes	Au g/t	Au Oz	Tonnes	Au g/t	Au Oz	Cut-
Shamrock	Oxide	2,000	3.78	300	13,000	2.37	1,000	15,000	2.60	1,300	оп 0.5g/t
Shamrock	Fresh	8,000	4.28	1,200	64,000	3.08	6,300	72,000	3.22	7,500	Au
Shamrock	Total	11,000	4.17	1,500	76,000	2.96	7,300	87,000	3.11	8,700	

Table 2. Shamrock Resource estimate for gold. Discrepancies may occur due to rounding.

		Indicated		Inferred			Total				
Deposit	Material	Tonnes	Au g/t	Au Oz	Tonnes	Au g/t	Au Oz	Tonnes	Au g/t	Au Oz	Cut-
Falcon	Oxide	4,000	6.26	700	22,000	2.77	1,900	25,000	3.28	2,700	off 0.5g/t
Falcon	Fresh	19,000	3.58	2,200	87,000	2.42	6,800	106,000	2.63	9,000	Au
Falcon	Total	23,000	4.01	3,000	109,000	2.49	8,700	132,000	2.76	11,700	

Table 3. Falcon Resource estimate for gold. Discrepancies may occur due to rounding.

Den di Matat		Indicated			Inferred						
Deposit	Material	Tonnes	Au g/t	Au Oz	Tonnes	Au g/t	Au Oz	Tonnes	Au g/t	Au Oz	Cut-
Comstock	Oxide	14,000	2.45	1,100	12,000	1.55	600	26,000	2.03	1,700	off 0.5g/t
Comstock	Fresh	17,000	1.93	1,000	33,000	1.37	1,400	50,000	1.56	2,500	Au
Comstock	Total	31,000	2.16	2,100	45,000	1.42	2,000	75,000	1.72	4,200	

Table 4. Comstock Resource estimate for gold. Discrepancies may occur due to rounding.

			Indicated			Inferred			Total		
Deposit	Material	Tonnes	Au g/t	Au Oz	Tonnes	Au g/t	Au Oz	Tonnes	Au g/t	Au Oz	Cut
Little Duke	Oxide	0	0.00	0	65,000	1.04	2,200	65,000	1.04	2,200	off
Little Duke	Fresh	0	0.00	0	312,000	1.14	11,400	312,000	1.14	11,400	Au
Little Duke	Total	0	0.00	0	377,000	1.12	13,600	377,000	1.12	13,600	

Table 5. Little Duke Resource estimate for gold. Discrepancies may occur due to rounding.

			Indicated			Inferred			Total		
Deposit	Material	Tonnes	Au g/t	Au Oz	Tonnes	Au g/t	Au Oz	Tonnes	Au g/t	Au Oz	Cut
Mt Freda	oxide	270,000	2.61	22,600	129,000	2.3	9,500	398,000	2.51	32,100	off
Mt Freda	Fresh	329,000	2.1	22,200	311,000	2.09	20,900	641,000	2.1	43,100	Au
Mt Freda	Total	599,000	2.33	44,800	440,000	2.15	30,400	1,039,000	2.25	75,300	

Table 6. Mt Table 6. Freda Pit Resource estimate for gold. Discrepancies may occur due to rounding.

## Mt Freda Complex Global JORC estimate - Gold

Material	Indicated		Int	Inferred			Total			
	Tonnes	Au g/t	Au Oz	Tonnes	Au g/t	Au Oz	Tonnes	Au g/t	Au Oz	Cut-off
Oxide	289,000	2.66	24,700	240,000	1.97	15,200	529,000	2.35	39,900	0.5g/t Au
Fresh	374,000	2.22	26,700	807,000	1.81	46,900	1,180,000	1.94	73,500	
Total	663,000	2.41	51,400	1,047,000	1.84	62,000	1,710,000	2.06	113,400	

 Table 7. Mt Freda Complex Global Resource estimate for gold, including Mt Freda pit, Comstock, Falcon, Shamrock and Little Duke gold mines. Discrepancies may occur due to rounding.

## **Scoping Studies**

The company has commenced assessing several mining scenarios for the Mt Freda Complex including initial open cut mining, with all ore treated off site at third Party processing facilities. Como Engineering have been engaged in reviewing the current Ore processing facilities in Cloncurry. With the current infrastructure in place including haul road access, the Company will assess a low-cost early development mining start up.

The Company plans to utilize near term cash flow from the Mt Freda Complex to continue to upgrade the Maiden resource estimate, as well as additional drilling targets identified within the Ausmex tenure, (Figure 4 below).



**Figure 4.** Additional high-grade gold drilling targets at the Mt Freda Complex. (Refer ASX release 7<sup>th</sup> August 3<sup>rd</sup> October & 5<sup>th</sup> December 2017)

# **Mineral Resource Statement Overview**

## **Geology and Geological interpretation**

Mt Freda and the Golden Mile projects including Falcon, Shamrock, Comstock & Little Duke are underlain by Early Proterozoic meta-sedimentary and meta-volcanic rock units of the Soldiers Cap Group (PLo). The bulk of these are comprised of Mount Norna Quartzite (PLon and PLon/d, 1654  $\pm$  4 Ma), consisting of feldspathic meta-arenite, quartzite, garnet-andalusite-mica-schist, and phyllite with additional minor conglomerate, metagreywacke, siltstone, chert, and limestone. The Mount Norna Quartzite is commonly traversed by dykes/sills of amphibolite, meta-basalt, and meta-dolerite (PLon/d). To the north-east, these rocks are overlain by Member 1 of the Toole Creek Volcanics (PLot1, 1658  $\pm$  8 Ma) which in this area form the western limb of a large northerly plunging syncline. Member 1 consists of amphibolite, meta-basalt, and meta-dolerite.

The mineralisation at Mt Freda is concentrated in a west-northwest trending outcropping fault gouge extending over a length of about 600 metres, that dips ~ 70 degrees to the south. Geophysical surveys

correlate with outcropping geology and indicate that a conductive feature runs approximately 2,000 m under cover from within the Mt Freda Pit, to the north west into EPM14163. The orebody is located on the contact of the Mt Norna formation with the overlying Toole Creek Volcanics.

Drilling has defined the mineralisation to a depth of approximately 280 metres below surface, or about 180 metres below the floor of the existing open pit. The deposit lies in the Cloncurry district, which is characterised by Paleoproterozoic cover sequence rocks. Rock sequences in this zone are intruded by a number of metamorphic intrusions that are predominantly potassic in nature.

The Golden Mile projects including Falcon, Shamrock, Comstock, are all hosted within the Mt Norna Quartzite in close contact to the Toole Creek Volcanics. The Little Duke project is hosted within the Toole Creek Volcanics.

Mt Freda and the four Golden Mile projects all display an epithermal style of mineralisation, potentially stemming from a deeper mafic source, as defined by Emeritus Professor Ken Collerson, (Refer ASX Release 17<sup>th</sup> October 2019).

Comstock historic gold mine is hosted within the interbedded meta-sedimentary package (quartzite/sandstone) of the Mt Norna Quartzite. Gold mineralisation occurs in strongly oxidised, iron and silica altered units. Veining present is likely associated with structural influences that are yet to be determined. Some remnant minor disseminated pyrite was also observed during the core logging process. The mineralisation strikes north to north east containing multiple brecciated reefs dipping ~ 60 degrees to the west.

The Falcon historic gold mine is hosted within similar interbedded meta sediments similar to Comstock, yet Falcon contains two parallel brecciated reefs dipping ~ 85 degrees to the west and striking north to north east.

Shamrock historic gold mine is located offset ~ 30 m east of Falcon in the same meta sediment unit, again striking north to north east, yet is a single wider mineralised breccia zone, dipping ~ 85 degrees to the east.

Little Duke is located in the Toole Creek Volcanics that over lay the western Mt Norna quartzite unit. The mineralisation outcrops in a large iron stone outcrop and where mineralisation is located within an epithermal quartz rich material. Deeper drilling indicates the mineralisation is hosted in a breccia within interbedded basalts and siltstones, and shales. The mineralisation strikes north to north west, dipping  $\sim$  80 degrees to the west.

The deposits have been modelled on 10 metre sections, by reviewing both geological logging and grades, confirmed by site inspections and field interpretations. All deposits have previously been mined, with historic mining records confirming interpretations. The confidence in the geological interpretations is considered good, with the majority of mineralised structures interpreted as continuous based on field mapping and historic mining reports, and further defined by good quality drilling.



Figure 5. Geology, Mt Freda Complex.



Figure 6. Mt Freda Complex interpreted mineralisation associated with historic high-grade gold mines.

## Sampling and Sub Sampling techniques

Historic RC, RAB and Diamond drill holes at Mt Freda have been completed over the last thirty years, with previous reporting including those from Diversified Mineral Resources. Historic reports indicate that drilling was completed following Industry standard protocols for the time, including geological logging, sampling, and independent analysis by third party laboratories. Historic RC drilling completed at Mt Freda was undertaken by independent drilling companies utilising conventional hammer bits, with samples collected by rig mounted cyclone splitters, with samples collected every 1 m. Historic Diamond Core drilling at Mt Freda was believe to be completed utilizing industry standard drilling equipment, with sampling following industry standard protocols at the time, with core half cut with diamond saw, photographed, geologically logged and sent for analysis by third party laboratories. Samples were dispatched to Pilbara Laboratories in Townsville, where 50 g fire assay for gold was completed. The exploration data is considered suitable for current reporting requirements.

More recent drilling at Mt Freda consisted of modern industry standard protocols for RC and Diamond drilling and sampling techniques conducted by both the previous mine holder Queensland Mining Corporation (QMC) and Ausmex Mining Group Limited (Ausmex).

All drilling at the Golden Mile projects including Little Duke, Comstock, Falcon and Shamrock was completed by Ausmex utilizing modern drilling and sampling industry standard protocols.

RC drilling was completed at all projects with 2- 3kg average weight samples collected every 1m through a cyclone and rig mounted 1/8 riffle splitter. Samples were pulverised. Outside of mineralised zones, 4m composites were sampled. These composites were collected using a PVC spear inserted through and across the bulk sample for each metre included in the composite sample.

Additional Diamond core sampling was completed at the Shamrock project and Little Duke project. Drill core samples varied from 0.15 m to 4m intervals, but a vast majority (84%) were at 1m intervals.

Each RC chip sample consisted of a 12.5% (1/8) split taken from a three-stage riffle splitter mounted directly under the drill rig's cyclone and collected in calico bags for sample submission to the laboratory for analysis. The remaining 87.5% of each sample was stored onsite in labelled plastic bags. Each sample represented a single one metre interval for all of the RC drill holes. The diamond core drill holes were sampled by splitting the core with a diamond saw. For most samples, half core was taken, and half left for future reference. However, for QAQC duplicate sample intervals, two separate quarter-core samples were taken. Samples were transported to ALS Townsville for analysis. Where Diamond core composite samples exceeded 2m, ¼ Core was sampled. Diamond core sample intervals were defined by the geologist and are representative of geology.

Once the samples were received by ALS, they were dried, weighed, crushed and pulverised to 85% passing 75 microns (PUL-23). Analysis of all submitted samples included both fire assaying for gold (Au-AA26) and inductively coupled plasma mass spectrometry (ME-ICP61) for a 33-element suite of metals. Any copper, zinc or cobalt assays greater than 1% were re-analysed using more accurate techniques.

Sample size is considered appropriate for the material. Field duplicates and standards were entered for analysis with the results indicating that representative sampling and subsequent analysis were completed.

## Historic Drill hole data validation

Several sets of historical drill holes were identified by Ausmex before creating a drill hole data base. Ausmex verified the collar locations of all drill holes prior to entering into the data base. This was completed by reviewing and reading numerous historic drilling reports, and cross referencing with maps and sections, as well as field surveys. The validation process before entering the database included validation of collar locations in GDA94 grid, geological logging reports were available for holes including water bores, and mineral holes had hard copy assay reports. Historic Mt Freda holes were located using a number of different coordinate systems including AMG66, AGD84 and at least 2 local grids. Validated drill holes were converted to the current GDA94 grid. A majority of historic collars were re surveyed by Ausmex in early 2020. No excluded holes were entered into the database or used for interpretations.

## Drill hole data base

The Resource estimate was calculated based on the following project drill hole data.

## Mt Freda

The Mt Freda drill hole database contained the following drill holes used to assist in the geological interpretation.

The Mt Freda Resource was estimated on the following drill hole data.

Hole Type	No Holes	Depth
RC	46	7,063
Diamond Drill	35	6,891
RC/Diamond Tail	10	1,726
Percussion	1	156
Total	92	15,836

Table 8. Mt Freda Resource drill hole database

## Comstock

The Comstock drill hole database contained the following drill holes used to assist in the geological interpretation.

The Comstock Resource was estimated on the following drill hole data.

Hole Type	Holes	Depth
RC	51	3335
Percussion	2	118
Total	53	3453

Table 9. Comstock Resource drill hole database

## **Falcon and Shamrock**

The Falcon and Shamrock drill hole database contained the following drill holes used to assist in the geological interpretation.

The Falcon and Shamrock Resource was estimated on the following drill hole data.

Deposit	Hole Type	Holes	Metres
Shamrock	RC	35	3271
Shamrock	Diamond	2	260
Falcon	RC	38	2949
Falcon	Percussion	2	82
Falcon	Diamond (From Shamrock)	1	138
	Total	78	6700

Table 10. Shamrock Falcon Resource drill hole database

## Little Duke

Little Duke drill hole database utilized for the inferred Resource estimate.

Deposit	Hole Type	Holes	Metres
Little Duke	RC	20	1445
Little Duke	Diamond	4	1740
Little Duke	RC/Diamond	3	1150
	Total	27	4335

Table 11. Little Duke Resource estimate database.

## Topography

A topographic surface was supplied by Ausmex constructed from drill hole collars that were registered to LiDar downloaded survey data. A surface pit shell was provided for the Mt Freda topography.

## **Drilling techniques**

The Mt Freda Deposit has been estimated on drill hole spacings averaging 20 m over the mineralisation. The Golden Mile projects including Comstock and Falcon have been estimated on drill hole spacings averaging 10 m over mineralisation. The Little Duke has been estimated on an average 20 m drill hole spacing.

Mt Freda Historical drilling included RC and Diamond drilling. Historic reports indicate drilling companies were engaged using industry standard equipment at the time including face hammer RC bits and both HQ and NQ sized diamond bits for cored holes. Not all historic holes contained down hole survey information, or core recovery. Our review of available logging indicates there was no significant core loss. Historic holes mineralisation zones correlated with recent drill holes indicating minimum down hole variation.

Recent drilling completed by QMC and Ausmex included orientating all holes with down hole surveys, confirming azimuth and bearing of each hole. Diamond Core drilling used triple tube and orientated, ball marker. Ten RC pre collar holes were drilled at Mt Freda with Diamond Tails. The RC component was drilled to approximately 20 m above the mineralised zone under supervision of a Geologist, then the hole was converted to HQ diamond core and drilled to a minimum ten meters past the mineralised zone under the Geologists supervision.

The Comstock deposit estimate is produced from RC drilling only, whilst the Falcon, Shamrock and Little Duke estimates were based on a combination of RC drilling and Diamond core. All RC chips were collected via cyclone and  $1/8^{th}$  riffle splitter before being logged by the site Geologist. All Diamond core was geologically logged, with each run measured to calculate core recovery, before being cut for sampling.

No significant issues with core recoveries were identified by the recent drilling at either of the projects, indicating a reasonably competent ground, competent drilling, and representative sample recovery adequate for resource estimation.

## Sample analysis method

Recent drilling completed by QMC and Ausmex collected both RC chip samples and HQ diamond core.

RC chip samples consisted of a 12.5% (1/8) split taken from a three-stage riffle splitter mounted directly under the drill rig's cyclone and collected in calico bags for sample submission to the laboratory for analysis. The remaining 87.5% of sample was stored onsite in labelled plastic bags. Each sample represented a single one metre interval for all of the RC drill holes. Outside of mineralised zones, 4m composites were sampled. These composites were collected using a PVC spear inserted through and across the bulk sample for each metre included in the composite sample.

The diamond core drill holes were sampled by splitting the core with a diamond saw. For most samples, half core was taken, and half left for future reference. However, for QAQC duplicate sample intervals, two separate quarter-core samples were taken. Samples were transported to ALS Townsville for analysis. Once the samples were received by ALS, they were dried, weighed, crushed and pulverised to 85% passing 75 microns (PUL-23). Analysis of all submitted samples included both fire assaying for gold (Au-AA26) and inductively coupled plasma mass spectrometry (ME-ICP61) for a 33-element suite of metals. Any copper, zinc or cobalt assays greater than 1% were re-analysed using more accurate techniques.

Repeats and checks were conducted by ALS laboratories whilst completing the analysis.

Ore grade standards and duplicates entered by Ausmex every 20 samples submitted and recorded within the database. All samples were given a unique numeric number, with no indication of individual standards. Standards and duplicates were checked against reference grades to confirm tolerance ranges.

Historic reports and hard copy assay results from Mt Freda as written by DMR, comment that all samples were dispatched to Pilbara Laboratories in Townsville where samples where dried, weighed, crushed with a 50 g Fire Assay for gold was conducted. There is no recording of procedures yet assume industry standard protocols at the time were practiced. There are no historic records that indicate subsampling was conducted, yet hard copy reports and database records indicate RC drilling produced 1 m samples via a rig mounted cyclone and splitter, whilst Diamond core samples were selected by the on-site geologist based on mineral content. There are no historic records of QAQC procedures and it is not possible to comment on the quality of the work. The sampling completed was conducted by professional third-party laboratories in Townsville, and it is reasonable to assume that the assay results are indicative and representative of the mineralisation style.

A reasonable number of historic reports include drill hole information and assay data that cross referenced with original company reports, sections and plans.

The level of accuracy of analysis is considered adequate with no bias samples reported.

All historical and recent assay results have been collated in an access database, this included the manual input and verification from historic reports. Results reported below limit of detection where entered as half the minimum detection limit. The access database is compatible with Surpac modelling software.

# **Estimation methodology**

## Mt Freda

## **MINERALISATION Domaining**

The Mt Freda Resource was modelled with 31 individual lode wireframes for the purpose of compositing, reviewing sample populations and performing Ordinary Kriging estimation. 9 Lodes representing the major lodes of the deposit were combined to carry out variography of Au on the deposit.

Sectional interpretation was undertaken on 10m spaced oblique sections with polygons snapped to drill holes prior to wireframing. A nominal cut-off of 0.3g/t was used to guide the interpretation. In general, the mineralisation showed good continuity both along strike and down dip.

The Mt Freda deposit is characterised by deep, irregular weathering down the main shear structure. Due to the complexity of the weathering in relation to the lodes, fresh rock and oxide composites within the mineralisation were combined for the purpose of Au estimation. A detailed weathering model was created to assign density to the fresh rock and oxide material.

## **Data Coding and Compositing**

Drill holes within the database were assigned a unique lode based on the numbering system. These are stored as intervals with a from/to depth and lode number within the "Ore zone" table. The unique database coding was used to control the compositing process.

A downhole composite length of 1m was used. Intervals at the boundaries of the lode were not considered in the estimation where the composite length was less than 0.75m.

Only composites contained within each individual wire frame were selected with estimation performed using the same individual wireframe as a hard boundary.

## **Estimation Technique**

Ordinary Kriging using Surpac Software was employed to interpolate Gold into Y=10m x X=10m x Z=10m parent cells for all mineralised domains. The block size of the parent cells is half the approximate drill hole spacing across the deposit. All domains were estimated individually using the uniquely coded 1m downhole composite data. The estimate was constrained to the Y=0.625m x X=0.625m x Z=0.625m sub-cell resolution at the lode hard boundaries. Only composites occurring within each individual lode solid was used to estimate blocks within that solid.

## **Estimation Parameters**

The OK estimate was interpolated using an ellipsoid search with search parameters as summarised in 6 and 7 below. Variography parameters used in the estimate are detailed in Tables 13 and 14. Figure 7 shows the grade distribution of the Au estimate. Blocks lying within the lode wireframes and outside the range of the search ellipsoid were filled to the lode hard boundaries in a second pass estimation (Maximum range 200m).

Axis	Dip	Dip Dir	Variogram Max Range (m)
Major	-45.3	274.6	53.4
Semi Major	-41.2	122.3	16.7
Minor	14.2	199.5	11.9

Table 12. Mt Freda Summary Estimation Parameters (Surpac) - Au

#### **Block Model Definition**

A non-rotated 3D block model with parent blocks of Y=10m x X=10m x Z=10m was defined to cover the Mt Freda project area. The model was sub-blocked to Y=0.625m x X=0.625m x Z=0.625.



Figure 7. Mt Freda Model Grade Distribution – Au.

#### Variography & Anisotropy

Variography using Surpac software was used to help define the maximum search range of the OK estimation. Major lodes composites were combined to increase the number of composites when performing the variogram analysis. The lodes considered major lodes are 1,3,4,5,6,8,9,15 and 21. All other lodes are considered Minor and have used the variography parameters of the combined major lode composites when performing the estimation. The normalised, spherical variogram was modelled with 2 structures (combined major lodes) and using a lag of 24m. The nugget was calculated from the down hole variogram of the all the combined lodes using a lag of 1m in the orientation of the drill holes.

Variogram Major Axis							
Structure	Sill	Range					
CO (nugget)	0.17						
C1	0.69	26.0					
C2	0.29	53.4					

Table 13. Variogram – Au Major Axis

Ellipsoid Orientation (Surpac) & Anisotrophy Factors					
Bearing	274.6				
Plunge	-45.3				
Dip	69.5				
major/semi-major ratio	3.2				
major/minor ratio	4.5				

Table 14. Au Ellipsoid Orientation & Anisotrophy (Surpac)

## Comstock

The Comstock deposit was modelled with 20 individual lode wireframes for the purpose of compositing, reviewing sample populations and performing Ordinary Kriging estimation. 5 Lodes representing the major lodes were combined to carry out variography of Au on the deposit.

Sectional interpretation was undertaken on 10m spaced oblique sections with polygons snapped to drill holes prior to wireframing. A nominal cut-off of 0.3g/t was used to guide the interpretation. In general, the mineralisation showed good continuity both along strike and down dip. Due to the low number of composites per lode, it was not deemed necessary to further sub-domain the composites based on oxide and fresh weathering domains.

## **Data Coding and Compositing**

Drill holes within the database were assigned a unique lode based on the numbering system. These are stored as intervals with a from/to depth and lode number within the "Ore zone" table. The unique database coding was used to control the compositing process.

A downhole composite length of 1m was used. Intervals at the boundaries of the lode were not considered in the estimation where the composite length was less than 0.75m.

Only composites contained within each individual wire frame were selected with estimation performed using the same individual wireframe as a hard boundary.

## Variography & Anisotropy

Variography using Surpac software was used to help define the maximum search range of the OK estimation. Major lodes composites were combined to increase the number of composites when performing the variogram analysis. The lodes considered major lodes are 2,3,4,5 and 6. All other lodes are considered Minor and have used the variography parameters of the combined major lode composites when performing the estimation. The normalised, spherical variogram was modelled with 2 structures (combined major lodes) and using a lag of 5m. The nugget was calculated from the down hole variogram of the all the combined lodes using a lag of 1m in the orientation of the drill holes.

Axis	Dip	Dip Dir	Variogram Max Range (m)
Major	65.8	249.1	21.2
Semi Major	18.3	26.5	16.4
Minor	-15.2	301.7	4.08

Table 15. Variogram – Au Major Axis

Ellipsoid Orientation (Surpac) & Anisotrophy Factors				
Bearing	249.1			
Plunge	65.8			
Dip	50.0			
major/semi-major ratio	1.29			
major/minor ratio	5.21			

Table 16. Au Ellipsoid Orientation & Anisotrophy (Surpac)

Variogram Major Axis							
Structure Sill Range							
CO (nugget)	0.22						
C1	0.71	12.75					
C2	0.51	21.25					

Table 17. Au Ellipsoid Axes Orientation and Variogram Maximum Ranges.

#### **Block Model Definition**

A non-rotated 3D block model with parent blocks of Y=5m x X=2m x Z=5m was defined to cover the Comstock Project area. The model was sub-blocked to Y=1.25m x X=0.5m x Z=1.25.

#### **Estimation Technique**

Ordinary Kriging using Surpac Software was employed to interpolate Gold into Y=5m x X=2m x Z=5m parent cells for all Comstock mineralised domains. The block size of the parent cells is half the approximate drill hole spacing across the deposit. All domains were estimated individually using the uniquely coded 1m downhole composite data. The estimate was constrained to the -cell resolution at the lode hard boundaries. Only composites occurring within each individual lode solid were used to estimate blocks within that solid.

#### **Estimation Parameters**

Variography parameters used in the estimate indicate the grade distribution of the Au estimate. Blocks lying within the lode wireframes and outside the range of the 1<sup>st</sup> pass search ellipsoid were filled to the lode hard boundaries in a second pass estimation (Maximum range 200m). The minimum number of composites to inform the estimate was relaxed from 3 to 1 in this second estimations pass to ensure the small minor discontinuous lenses were estimated.

#### **Falcon & Shamrock**

The Shamrock and Falcon deposits were modelled with 23 individual lode wireframes for the purpose of compositing, reviewing sample populations and performing Ordinary Kriging estimation. 4 Lodes from Shamrock (lodes 4-7) and 2 lodes from Falcon (lode 11&13) representing the major mineralised wireframes were combined to carry out Au variography on the deposit.

Sectional interpretation was undertaken on 10m spaced oblique sections with polygons snapped to drill holes prior to wireframing. A nominal cut-off of 0.3g/t was used to guide the interpretation. In general, the mineralisation showed good continuity both along strike and down dip. Due to the low number of composites per lode, it was not deemed necessary to further sub-domain the composites based on oxide and fresh weathering domains.



Figure 8. Total Shamrock Prospect wireframes shown in green and Falcon Prospect in red.

## **Data Coding and Compositing**

Drill holes within the database were assigned a unique lode based on the numbering system. These are stored as intervals with a from/to depth and lode number within the "Ore zone" table. The unique database coding was used to control the compositing process.

A downhole composite length of 1m was used. Intervals at the boundaries of the lode were not considered in the estimation where the composite length was less than 0.75m.

Only composites contained within each individual wire frame were selected with estimation performed using the same individual wireframe as a hard boundary.

#### Variography & Anisotropy

Variography using Surpac software was used to help define the maximum search range of the OK estimation. Major lodes composites were combined to increase the number of composites when performing the variogram analysis. The lodes considered major lodes are 4,5,6,7,11 and 13. All other lodes are considered Minor and have used the variography parameters of the combined major lode composites when performing the estimation. The normalised, spherical variogram was modelled with 1 structure (combined major lodes) and using a lag of 12m. The nugget was calculated from the down hole variogram of the all the combined lodes using a lag of 1 m in the orientation of the drill holes. Overall, it was difficult to obtain a good variogram and subsequently the ranges of the search ellipsoid were quite limited with a maximum range of only 15m in the major axis.

Variogram Major Axis							
Structure	Sill	Range					
CO (nugget)	0.31						
C1	0.70	15.3					

Table 18. Variogram – Au Major Axis

Ellipsoid Orientation (Surpac) & Anisotrophy Factors						
Bearing	180					
Plunge	49.7					
Dip	-69.5					
major/semi-major ratio	1.96					
major/minor ratio	5.12					

Table 19. Variogram – Au Major Axis

Axis	Dip	Dip Dir	Variogram Max Range (m)
Major	49.7	180	15.3
Semi Major	-37.2	206.1	7.8
Minor	-13.1	105.9	3.0

Table 20. Au Ellipsoid Axes Orientation and Variogram Maximum Ranges



Figure 1. Shamrock/Falcon Model Grade Distribution – Au.

#### **Block Model Definition**

A non-rotated 3D block model with parent blocks of Y=5m x X=2m x Z=5m was defined to cover the Shamrock & Falcon Deposit area. The model was sub-blocked to Y=0.625m x X=0.25m x Z=0.625.

Origin	Minimum	Model Extent	Rotation
Y	7681550	7682000	0
Х	472800	473050	0
Z	100	300	0
Parent Cell Y	5m	Min Sub-Cell Y m	0.625m
Parent Cell X	2m	Min Sub-Cell X m	0.25m
Parent Cell Z	5m	Min Sub-Cell Z m	0.625m

Table 21. Falcon Shamrock block model definition.

#### **Estimation Technique**

Ordinary Kriging using Surpac Software was employed to interpolate Gold into Y=5m x X=2m x Z=5m parent cells for all Shamrock and Falcon mineralised domains. The block size of the parent cells is half the approximate long section drill hole spacing across the deposit. All domains were estimated individually using the uniquely coded 1m downhole composite data. The estimate was constrained to the sub-cell resolution at the lode hard boundaries. Only composites occurring within each individual lode solid were used to estimate blocks within that solid.

#### **Estimation Parameters**

The OK estimate was interpolated using an ellipsoid search with search parameters as summarised in Table 10 below. Variography parameters used in the estimate are detailed in Table 5. Figure 9 shows the grade distribution of the Au estimate. Blocks lying within the lode wireframes and outside the range of the 1<sup>st</sup> pass search ellipsoid were filled to the lode hard boundaries in a second pass estimation (Maximum range 200m). The minimum number of composites to inform the estimate was relaxed from 3 to 1 in this second estimations pass to ensure the small minor discontinuous lenses were estimated.

## **Little Duke**

#### Methodology:

Blank intervals from the drill assay data were assigned values of 0.001 g/t Au on the basis that they are unmineralized. Samples that reported below detection limit were assigned values equivalent to half the DL.

The revised drillhole data were then loaded into Micromine modelling software using inversed distance square.

Downhole compositing was undertaken at 2m intervals to even out narrow sampling intervals.

Basic statistical plots were created, such as grade histograms for Au, Table 10.



## Modelling: A model was created with parameters listed in

Table 2. Note, this model excluded eleven drill holes located outside of the block model extents These drill holes did not contain any significant assay values.

Parameter	Value
X dimension (easting)	5m
Y dimension (north)	5m
Z dimension (RL)	2m
Eastings	473,560E – 473,750E
Northings	7,581,120N - 7,581,200N
RL	120mRL - surface

Table 22: Parameters of blank model

Gold values for each block were interpolated using an inverse distance square method, spherical search with 20m radius, 8 sectors, maximum 8 points, minimum 2 points, sub-blocking at half dimensions at the limits of the block model (such as where the topo surface cut the primary blocks).

10

## Top Cut grades including the basis for the selected top cut grades

## Mt Freda

## **Summary Statistics and Assay Capping**

Top cuts were applied by viewing the outliers of the histograms for each domain. In cases where top cuts were applied this correlated to the 97.5<sup>th</sup> percentile of the distribution

Au Statistic (Au)										
Lode Number	12	14	15	16	18	21	22	25	27	30
Number of samples	4	171	70	13	12	131	4	6	5	4
Minimum value	0.40	0.01	0.11	0.03	0.07	0.00	0.30	0.10	1.29	0.43
Maximum value	0.87	84.30	6.33	6.93	5.95	18.30	1.54	3.92	18.00	5.15
Mean	0.64	3.30	1.42	2.10	1.36	2.68	0.88	1.24	8.23	3.17
Median	0.64	0.92	0.82	0.88	0.37	0.70	0.85	0.38	2.58	3.55
Standard Deviation	0.17	7.86	1.47	2.20	1.98	4.70	0.58	1.44	7.99	1.71
Coefficient of variation	0.27	2.38	1.04	1.05	1.46	1.75	0.66	1.16	0.97	0.54
Top Cut (g/t) 97.7 <sup>th</sup> Percentile	No	19.95	5.48	No	No	No	No	No	No	No

Table 23a. Mt Freda 1m composite statistics for Au by domain. The 97.5th percentile was selected as the top cut for outliers.

Au Statistic (Au)										
Lode Number	1	2	3	4	5	6	7	8	9	11
Number of samples	4	59	141	69	42	171	23	60	29	6
Minimum value	0.43	0.01	0.01	0.03	0.07	0.01	0.02	0.02	0.13	0.04
Maximum value	5.15	12.80	19.45	9.26	18.52	35.43	8.06	26.98	3.49	1.22
Mean	3.17	1.79	2.10	2.09	2.64	4.40	1.34	2.65	0.95	0.51
Median	3.55	0.86	0.96	1.76	1.00	1.67	0.79	0.91	0.64	0.33
Standard Deviation	1.71	2.56	2.76	1.84	3.86	6.17	2.03	4.78	0.70	0.47
Coefficient of variation	0.54	1.43	1.32	0.88	1.47	1.40	1.52	1.80	0.73	0.91
Top Cut (g/t) 97.7 <sup>th</sup> Percentile	No	11.11	8.80	8.28	16.04	24.19	7.34	19.10	2.69	No

Table 23b. Mt Freda 1m composite statistics for Au by domain. The 97.5th percentile was selected as the top cut for outliers.

## Comstock

## Summary Statistics and Assay Capping

Top cuts were applied by viewing the outliers of the histograms for each domain. In cases where top cuts were applied this correlated to the 97.5<sup>th</sup> percentile of the distribution. The composite gold statistics and top cuts applied for each of the major lodes.

		Au Statistic (Au)			
Lode Number	2	3	4	5	6
Number of samples	19	29	226	30	44
Minimum value	0.04	0.01	0.00	0.04	0.00
Maximum value	8.95	12.45	35.60	7.75	15.24
Mean	1.51	1.71	2.09	1.52	0.92
Median	0.52	0.87	0.47	0.81	0.47
Standard Deviation	2.36	2.70	4.56	1.89	2.26
Coefficient of variation	1.56	1.58	2.18	1.25	2.46
Top Cut (g/t) 97.7 <sup>th</sup> Percentile	No	10.98	16.78	6.90	9.00

Table 24. Comstock top cut.

#### **Falcon and Shamrock**

#### Summary Statistics and Assay Capping

Top cuts were applied by viewing the outliers of the histograms for each domain. In cases where top cuts were applied this correlated to the 97.5<sup>th</sup> percentile of the distribution. Table 4 shows the composite gold statistics and top cuts applied for each of the major lodes by deposit.

	Au Statistic (Au)									
			Sham	nrock			Falcon			
Lode Number	3	4	5	6	7	8	11	12	13	
Number of samples	19	47	108	25	23	9	238	12	25	
Minimum value	0.05	0.02	0.00	0.03	0.00	0.01	0.00	0.02	0.01	
Maximum value	6.75	23.30	42.60	26.90	6.78	38.90	29.60	14.70	23.58	
Mean	0.84	4.24	3.11	2.68	0.98	5.52	2.62	2.45	1.74	
Median	0.60	1.30	0.46	0.59	0.09	0.56	0.68	0.50	0.38	
Standard Deviation	1.44	6.25	7.64	6.25	1.75	11.94	5.28	4.59	4.62	
Coefficient of variation	1.72	1.47	2.45	2.33	1.78	2.16	2.01	1.87	2.65	
Top Cut (g/t) 97.7 <sup>th</sup> Percentile	No	No	32.50	No	No	No	22.89	No	No	

Table 25. 1m composite statistics for Au by domain.

#### Little Duke

There was no top cut applied to the Little Duke assays in estimation based on reviewing histograms of 2m composites used in the modelling process. Histograms display no extreme outliers for gold or copper.

Basic statistical plots were created, such as grade histograms for Au (Figure 10).

## **Bulk Density**

#### Mt Freda

The densities were determined at ALS using the OA-GRA08 method as described as follows; The rock or core section (up to 6 kg) is weighed dry. The sample is then weighed while it is suspended in water. The specific gravity is calculated from the following equation:

**OA- GRA08** Specific Gravity =  $\frac{\text{Weight of sample (g)}}{\text{Weight in air (g) - Weight in water (g)}}$ 

Material Type	Average SG	Sample Count
Oxide	2.44	5
Fresh	2.70	41

Table 26. Average Densities and Sample Count

An average SG of 2.44 oxide obtained from the oxidised shear zone domain at Mt Freda. Of these 4 were above 2.3 and one below 2.0. Due to the low number of samples and one low result, the SG was rounded up to 2.5 and this used to assign to oxide block density in the model. An SG of 2.70 for fresh rock was determined from 41 samples and used to code the model. The oxidation boundary has been modelled from the drill hole database and shows a blanket of oxidation approx. 10-30m deep which variably deepens within the shear hosting the deposit down to a maximum depth of approximately 300m. The oxide-fresh rock boundary has been selected at the interface of moderate and partially weathered material. Typically, the mineralised oxide zone is a mix of weakly to strongly oxidised material with only minor amounts of completely oxidised material.

#### Comstock, Falcon and Shamrock

No bulk density samples have been supplied from Shamrock and Falcon. Ausmex collected 72 bulk density samples from diamond drilling at two prospects (Mt Freda & Gilded Rose) located in the vicinity of the Golden Mile and the average for the 72 samples is 2.7 g/cc. Average down hole weathering depth at Shamrock and Falcon of 25 m which translates to 22 m vertical. A weathering surface was created by projecting the topography 22 m vertically downwards and oxide blocks coded above this surface. Based on the close similarities to Mt Freda mineralisation and densities determined at Mt Freda, a bulk SG of 2.5 was assigned to the oxide blocks and a bulk density of 2.7 was assigned to fresh blocks in the model.

#### Little Duke

A base of oxidation surface was created from the weathering profile in the drill logs. The block model was split at this surface, with "oxidised" coded for blocks above the surface and "fresh" coded for blocks below the surface.

For fresh material, a bulk density value of 2.7 was used to calculate tonnages and for oxidised material an RD value of 2.4 was used, (a lower RD, rounded down from 2.44 for Mt Freda, considering lower classification category). These figures were based on RD measurements from the nearby Mt Freda deposit, which consists of similar lithologies.

In general, oxidised material represents ~16% of the total contained gold ounces.

#### **Mineral Resource Classification**

For reporting purposes, a 0.5 g/t cut off was used for gold. Consideration was given to the location of the deposits to infrastructure, including a mobile workforce, and direct access via a current haul road to third party ore processing facilities that can treat both fresh and oxidised ore material, as well as the fact Mt Freda is on a granted Mining Lease, and Comstock, Falcon, and Shamrock projects are within a Mining Lease application. Furthermore, the Company has a binding agreement to process all ore from the Golden Mile projects at the Great Australia Mine (GAM) 600 ktpa CIP processing facility in Cloncurry. Ore from Mt Freda was previously processed at the GAM during late 2018 and early 2019 by the owner Round Oak Minerals.

#### **Mt Freda**

## **Resource Classification**

To classify the gold resource, two conditions were applied to assign an Indicated status:

- 1) A distance equal to the maximum range of the search ellipsoid from the informing sample; and
- 2) A minimum of 2 drill holes used to estimate the block.

Blocks not estimated in this first pass that occurred outside the range of the search ellipsoid and within the hard boundary of the lode wireframe were estimated in a second pass with a maximum range of 200m. Blocks estimated in the second pass as well as blocks estimated in the first pass with less than 2 drill holes were given an Inferred classification.



Figure 13. Mt Freda Lodes Resource Classification: Green – Indicated, Blue = Inferred.

#### **Resource Reporting**

The Gold global resource was reported at a cut-off of 0.5g/t Au. The pit void was accounted for when reporting from the resource model.

Deposit Material		Indicated				Inferred			Total		
	Tonnes	Au g/t	Au Oz	Tonnes	Au g/t	Au Oz	Tonnes	Au g/t	Au Oz	Cut	
Mt Freda	oxide	270,000	2.61	22,600	129,000	2.3	9,500	398,000	2.51	32,100	off
Mt Freda	Fresh	329,000	2.1	22,200	311,000	2.09	20,900	641,000	2.1	43,100	Au
Mt Freda	Total	599,000	2.33	44,800	440,000	2.15	30,400	1,039,000	2.25	75,300	

Tables 27. Mt Freda Resource Summary Gold. Discrepancies may occur due to rounding

#### Comstock

#### **Resource Classification**

Indicated classification was assigned where blocks were within the maximum range if the 1st pass search ellipsoid and the number of holes informing the sample was 3 or more. Blocks not estimated in this first pass that occurred outside the range of the search ellipsoid and within the hard boundary of the lode wireframe were estimated in a second pass with a maximum range of 200m. These blocks were given an Inferred classification and include blocks in the first pass that had less than 3 holes used in the estimation. (Figure 14).



## **Resource Reporting**

The Comstock global resource was reported at a cut-off of 0.5g/t Au below the topographic surface.

Deposit Material		Indicated		Inferred			Total				
	Tonnes	Au g/t	Au Oz	Tonnes	Au g/t	Au Oz	Tonnes	Au g/t	Au Oz	Cut-	
Comstock	Oxide	14,000	2.45	1,100	12,000	1.55	600	26,000	2.03	1,700	off 0.5g/t
Comstock	Fresh	17,000	1.93	1,000	33,000	1.37	1,400	50,000	1.56	2,500	Au
Comstock	Total	31,000	2.16	2,100	45,000	1.42	2,000	75,000	1.72	4,200	

Table 28. Comstock Rose Resource Summary. Discrepancies may occur due to rounding

## **Falcon and Shamrock**

**Resource Classification** 

Indicated classification was assigned where blocks were within the maximum range if the 1st pass search ellipsoid and the number of holes informing the sample was 2 or more. Blocks not estimated in this first pass that occurred outside the range of the search ellipsoid and within the hard boundary of the lode wireframe were estimated in a second pass with a maximum range of 200m. These blocks were given an Inferred classification and include blocks in the first pass that had less than 2 holes used in the estimation. (Figure 10)



Figure 16. Shamrock/Falcon Model Resource Classification; Green – Indicated, Blue = Inferred.

## **Resource Reporting**

The Shamrock and Falcon global resources were reported at a cut-off of 0.5g/t Au below the topographic surface.

		Indicated			Int	Inferred			Total		
			Au			Au			Au		
Deposit	Material	Tonnes	g/t	Au Oz	Tonnes	g/t	Au Oz	Tonnes	g/t	Au Oz	Cut-
											off
Shamrock	Oxide	2,000	3.78	300	13,000	2.37	1,000	15,000	2.60	1,300	0 5ø/t
											Διι
Shamrock	Fresh	8 <i>,</i> 000	4.28	1,200	64,000	3.08	6,300	72,000	3.22	7,500	
Shamrock	Total	11,000	4.17	1,500	76,000	2.96	7,300	87,000	3.11	8,700	

		Indicated			Int	Inferred			Total			
Deposit	Material	Tonnes	Au g/t	Au Oz	Tonnes	Au g/t	Au Oz	Tonnes	Au g/t	Au Oz	Cut	
Falcon	Oxide	4,000	6.26	700	22,000	2.77	1,900	25,000	3.28	2,700	off	
Falcon	Fresh	19,000	3.58	2,200	87,000	2.42	6,800	106,000	2.63	9,000	Au	
Falcon	Total	23,000	4.01	3,000	109,000	2.49	8,700	132,000	2.76	11,700		

Table 29. Shamrock & Falcon Deposit Resource Summary.

#### Little Duke

The Little Duke has been classified as Inferred status with the estimation based on average 20 m drill hole spacings. Geological logging and interpretation imply continuity of grade.

			I	Indicated			Inferred			Total		
	Deposit	Material	Tonnes	Au g/t	Au Oz	Tonnes	Au g/t	Au Oz	Tonnes	Au g/t	Au Oz	Cut-
ſ	Little											off
	Duke	Oxide	0	0.00	0	65,000	1.04	2,200	65,000	1.04	2,200	0 5ø/t
ſ	Little											Δυ
	Duke	Fresh	0	0.00	0	312,000	1.14	11,400	312,000	1.14	11,400	,
	Little											
	Duke	Total	0	0.00	0	377,000	1.12	13,600	377,000	1.12	13,600	

Table 30. Little Duke Deposit Resource Summary.

#### **Validation Checks**

The validation check involved generating swath plots for Au on 20 m Easting swaths through the deposit. The total resource was reported at a 0g/t cut-off and plotted against the average Au top cut composite grades. The result shows a good correlation between the model estimate grade and the composite average grade

#### Mining and metallurgical methods and parameters and other material modifying factors

Mt Freda mine was previously operated by Diversified Mineral Resources NL for four years from 1987 and produced about 30,000 ounces of gold a year at a 4 g/t Au average grade. Diversified Mineral Resources reported recoveries up to 95% using a carbon-in-pulp (CIP) processing method. The mine was closed in 1991 after gold prices fell to a level below USD\$300 an ounce. Mineralisation in the surrounding Golden Mile projects is hosted within a similar geological setting. The Comstock, Falcon, Shamrock and Little Duke have all previously been mined as high-grade gold mines.

Previous metallurgical test work completed by Amdel for QMC in 2012 using Mt Freda data from 48-hour cyanide leach tests indicates over 90% gold recovery.

It is reasonable to assume the Golden Mile ore will achieve similar recoveries.

The Mt Freda Complex has current haul road facilities providing direct access to several third party ore processing facilities capable of processing both oxide and fresh gold ore, as well as floatation facilities that could treat other recoverable metals, removing the requirement to build processing facilities and tailings storage on site. Currently in Cloncurry ~ 40 km by road there is ~ 1 Mtpa processing capacity. Ausmex has a binding agreement with Round Oak Minerals Limited to process all ore from the Golden Mile at the GAM 600 ktpa CIP processing plant in Cloncurry. Ore from Mt Freda was previously processed at GAM in late 2018 and early 2019. Considering these factors, the resource has the potential for open cut mining. The Company will conduct a scoping study to review potential underground mining from selected higher-grade sections of the resource.

#### **Previous Resource Estimates**

QMC previously released a Resource estimate the Mt Freda Mine in 2011, under the JORC (2004) reporting guidelines. The Ausmex JORC estimate did not include all of the historic drill holes used by QMC, as Ausmex could not confirm all historic collar locations, or the holes had no geological logging.

#### **Peer Review**

This report has been peer reviewed by Ms Nicole Galloway Warland, who is a member of the Australasian Institute of Geoscientists (AIG). Ms Galloway Warland is a consultant Project Manager to Ausmex Mining Group Limited and a Geologist whom has sufficient relevant experience in relation to the mineralization styles being reported on to qualify as a Competent Person as defined in the Australian Code for Reporting of Identified Mineral resources and Ore reserves (JORC Code 2012).

## Previously Reported Information

The information in this report that references previously reported exploration results is extracted from the Company's ASX market announcements released on the date noted in the body of the text where that reference appears. The previous market announcements are available to view on the Company's website or on the ASX website (www.asx.com.au). The Company confirms that it is not aware of any new information or data that materially affects the information included in the original market announcements. The Company confirms that the form and context in which the Competent Person's findings are presented have not been materially modified from the original market announcements.

## **Forward Looking Statements**

The materials may include forward looking statements. Forward looking statements inherently involve subjective judgement, and analysis and are subject to significant uncertainties, risks, and contingencies, many of which are outside the control of, and may be unknown to, the company.

Actual results and developments may vary materially from that expressed in these materials. The types of uncertainties which are relevant to the company may include, but are not limited to, commodity prices, political uncertainty, changes to the regulatory framework which applies to the business of the company and general economic conditions. Given these uncertainties, readers are cautioned not to place undue reliance on forward looking statements.

Any forward-looking statements in these materials speak only at the date of issue. Subject to any continuing obligations under applicable law or relevant stock exchange listing rules, the company does not undertake any obligation to publicly update or revise any of the forward-looking statements, changes in events, conditions or circumstances on which any statement is based.

## **Competent Person Statement**

Statements contained in this report relating and Mineral Resource estimates and the potential are based on information compiled by Mr Matthew Morgan, who is a member of the Australasian Institute of Mining and Metallurgy (AusIMM). Mr Morgan is the Managing Director of Ausmex Mining Group Limited and Geologist whom has sufficient relevant experience in relation to the mineralization styles being reported and mineral resource estimation methodology to qualify as a Competent Person as defined in the Australian Code for Reporting of Identified Mineral resources and Ore reserves (JORC Code 2012). Mr Morgan consents to the use of this information in this report in the form and context in which it appears.

This announcement has been approved by the Baard of Ausmex Mining Group Limited.



JORC Code, 2012 Edition – Table 1 report template

Section 1 - Sampling Techniques and Data

## (Criteria in this section apply to all succeeding sections.)

Criteria	JORC Code explanation	Commentary
Sampling techniques	<ul> <li>Nature and quality of sampling (eg cut channels, random chips, or specific specialized industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling.</li> <li>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</li> <li>Aspects of the determination of mineralisation that are Material to the Public Report.</li> <li>In cases where 'industry standard' work has been done this would be relatively simple (eg 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverized to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (eg submarine nodules) may warrant disclosure of detailed information.</li> </ul>	<ul> <li>Recent Samples obtained through drilling completed by Ausmex and QMC have been derived from both reverse circulation (RC) and diamond drilling (DD). RC drilling was used to provide 1m samples of approximately 2-3kg through targeted ore zones, and 4m composite samples outside of ore zones. These 4m composites were collected using a PVC spear inserted through and across the bulk sample for each metre included in the composite sample.</li> <li>Composite samples were split to approximate sample size of approximately 3 kilograms.</li> <li>All diamond drilling completed by Ausmex and QMC has been HQ in diameter. Sample intervals are determined by the supervising geologist based on lithological boundaries, with a nominal maximum sample length of 1m. Where Diamond core composite samples exceeded 2m, ¼ Core was sampled. The selected sample intervals are cut in half using a core saw, with half core sent for analysis.</li> <li>Both RC and DD samples are provided to ALS Laboratories in Townsville for analysis using a 50g fire assay for Au (ALS method code Au-AA26), and a multi-acid digest with ICPAES finish for Cu and Co (ALS method code ME-ICP-61).</li> <li>Duplicates and standards were inserted at a nominal rate 1 in every 20 samples for QAQC purposes.</li> <li>Historical drill holes were completed at Mt Freda between 1985 and 2010, comprising RC, RAB and Diamond drill holes at Mt Freda have been completed over the last thirty years, with previous reporting including those from Diversified Mineral Resources.</li> <li>Historic reports indicate that drilling was completed by Australian registered Companies, following Industry standard protocols for the time, including geological logging, sampling, and independent analysis by third party laboratories. Historic RC drilling completed at Mt Freda was completed by rig mounted cyclone spitters, with samples collected every 1 m. Historic Diamond Core for the time, including geological logging, sampling, and independent analysis by third party</li></ul>

Criteria	JORC Code explanation	Commentary
		fire assay for gold was completed. The review of historic reports and cross referencing with plans and sections confirm the exploration data used is considered suitable for current reporting requirements.
Drilling techniques	• Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (eg 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).	<ul> <li>Recent drilling completed by Ausmex and QMC comprised both reverse circulation and diamond drilling, and water bores. All diamond drilling has been HQ in diameter to date. RC drilling has utilised a 5½ inch face sampling hammer. Recent Core was orientated by ball marker.</li> <li>Historic drilling has comprised a combination of Rotary Air Blast, Reverse Circulation, and Diamond drilling. Information regarding specific drilling parameters reported in all reports. RAB drilling results were not utilized in the Resource estimation.</li> </ul>
Drill sample recovery	<ul> <li>Method of recording and assessing core and chip sample recoveries and results assessed.</li> <li>Measures taken to maximize sample recovery and ensure representative nature of the samples.</li> <li>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.</li> </ul>	<ul> <li>During recent RC drilling sample recoveries are monitored by the supervising geologist. Poor recoveries and wet samples are recorded during logging. A cyclone and splitter are utilised to ensure representative samples are collected. The cyclone and splitter are monitored for cleanliness by the supervising geologist.</li> <li>Recent Diamond core recoveries are logged for every completed drill run, and any areas of core loss logged accordingly by the supervising geologist.</li> <li>Not all historic holes contained down hole survey information, or core recovery. Review of logging available indicates there was no significant core loss. Historic holes mineralisation zones correlated with recent drill holes indicating minimum down hole variation.</li> <li>Recoveries for both RC and DD drilling have been considered acceptable, and therefore samples are considered representative.</li> </ul>
Logging	<ul> <li>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.</li> <li>Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.</li> <li>The total length and percentage of the relevant intersections logged.</li> </ul>	<ul> <li>Geological logging of recent RC sample is completed by the supervising geologist for every metre down hole. Whole core is logged in full by the supervising geologist prior to cutting and sampling. Logging has been completed for all drilling completed by Ausmex to an adequate level of detail to allow Mineral Resource estimation.</li> <li>Only limited geological logging data is available for historic drill holes. Where available, this logging has been re-coded to align with geological coding within the Ausmex database. The logging completed in historic reports was at a standard suitable to produce maps, plans and sections found in company reports</li> <li>The geological logging completed is considered to be suitable detailed enough to completed geological interpretations and Mineral Resource Estimations mining studies. RQD logging is available for Geotechnical review.</li> </ul>

	Criteria	JORC Code explanation
use only	Sub-sampling techniques and sample preparation	<ul> <li>If core, whether cut or sawn and whether quarter, half or all core taken.</li> <li>If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.</li> <li>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</li> <li>Quality control procedures adopted for all sub-sampling stages to maximize representivity of samples.</li> <li>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.</li> <li>Whether sample sizes are appropriate to the grain size of the material being sampled.</li> </ul>
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	Quality of assay data and laboratory tests	<ul> <li>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</li> <li>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.</li> </ul>

• Nature of quality control procedures adopted (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie lack of bias) and precision have been established.

	Commentary
In and whether quarter, half or all core I, tube sampled, rotary split, etc and ry. hature, quality and appropriateness of the ique. a dopted for all sub-sampling stages to f samples. that the sampling is representative of the in luding for instance results for field appropriate to the grain size of the material	<ul> <li>Im RC samples were collected via a cyclone and riffle splitter. Outside of mineralised zones providing a sample of approximately 2-3kg. Outside of mineralised zones, 4m composites were sampled. These composites were collected using a PVC spear inserted through and across the bulk sample for each metre included in the composite sample.</li> <li>DD samples were sawn in half with half core submitted for analysis, and the remaining half being retained, with the exception of duplicate samples which were cut to quarter core.</li> <li>For both RC and DD samples, field duplicates and standards were inserted at a rate of approximately 1 in 20 to monitor the representivity of the sampling completed.</li> <li>The sampling completed by Ausmex and QMC is considered appropriate for the grain size of the material being tested.</li> <li>Historic RC, RAB and Diamond drill holes at Mt Freda have been completed over the last thirty years, with previous reporting including those from Diversified Mineral Resources. Historic reports indicate that drilling was completed following Industry standard protocols for the time, including geological logging, sampling, and independent analysis by third party laboratories. Historic RC drilling completed at Mt Freda was completed by independent drilling cumpanes utilising convention hammer bits, with samples collected by rig mounted cyclone spitters, with samples collected every 1 m. Historic Diamond Core drilling at Mt Freda was believe to be completed utilizing industry standard drilling equipment, with sampling following industry standard protocols at the time, with core half cut with diamond saw, photographed, geologically logged and sent for analysis by third party laboratories. Samples were dispatched to Pilbara Laboratories in Townsville, where 50 g fire assay for gold was completed.</li> <li>No information pertaining to standards and duplicates for the historic drilling is available.</li> <li>The exploration data is considered suitable for current re</li></ul>
propriateness of the assaying and and whether the technique is considered	<ul> <li>Ausmex samples have been analysed using a 50g fire assay for gold (ALS method Au-AA26), and a multi-acid digest with an ICPAES finish (ALS method code ME-ICP61). These methods are both considered industry standard for the</li> </ul>

elements being analysed.

- ALS complete internal repeat and check samples during analysis, which are ٠ reported to Ausmex with the full assay report.
- Ausmex submit blind field duplicates and standards at a rate of approximately ٠ 1 in every 20 samples.
- No issues surrounding accuracy and precision have been identified from the ٠ QAQC analysis completed on Ausmex samples to date.

Criteria	JORC Code explanation	Commentary
		<ul> <li>Historic reports and hard copy assay results from for Mt Freda written by DMR comment that all samples were dispatched to Pilbara Laboratories in Townsville where samples where dried, weighed, crushed with a 50 g Fire Assay for gold was conducted. There is no recording of procedures yet assume industry standard protocols at the time where practiced. There are no historic records that indicate subsampling was conducted, yet hard copy reports and database records indicate RC drilling produced 1 m samples via a rig mounted cyclone and splitter, whilst Diamond core samples were selected by the onsite geologist based on mineral content. There are no historic records of QAQC procedures and not possible to comment on the quality of the work. The sampling completed was conducted by professional third-party laboratories in Townsville, and it is reasonable to, assume that the assay results are indicative and representative of the mineralisation style.</li> <li>A reasonable number of historic reports include drill hole information and assay data that cross referenced with original company reports, sections and plans.</li> <li>The level of accuracy of analysis is considered adequate with no bias samples reported.</li> </ul>
Verification of sampling and assaying	<ul> <li>The verification of significant intersections by either independent or alternative company personnel.</li> <li>The use of twinned holes.</li> <li>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</li> <li>Discuss any adjustment to assay data.</li> </ul>	<ul> <li>All significant intersections are reviewed and verified by JORC competent personnel.</li> <li>Significant gold intersections are reported as combined downhole interval averages using received assay grades. Length weighted averages are used for DD samples where samples are not a consistent length.</li> <li>No calculation of internal waste has been calculated or assumed for reported significant intersections.</li> <li>No assay adjustment has been completed.</li> <li>No twinned drilling has been completed.</li> <li>Geological logging is completed by field geologists into field laptop computers using Microsoft Excel. These logs are then imported to the master Microsoft Access database by the database administrator who completes data validation during import.</li> <li>Historic laboratory reports from Pilbara Laboratories have been sighted for a number of drilling and sampling reports. Cross reference checks to company reports, sections and plans were completed. No material errors were identified.</li> </ul>
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.	• The location of all recent drillhole collars is initially collected using handheld GPS, with an accuracy of +/- 3m.

Criteria	JORC Code explanation	Commentary
	<ul> <li>Specification of the grid system used.</li> <li>Quality and adequacy of topographic control.</li> </ul>	<ul> <li>All recent drillhole collars and a majority of historic collars have subsequently been acquired by DGPS with a sub 1cm accuracy.</li> <li>Several sets of historical collar coordinates for the Mt Freda project were identified by Ausmex whilst validating the drill hole database. Any holes that displayed significant differences in hole locations between the different data sets were excluded from the data base created for the Mt Freda. Historic Mt Freda holes were located using a number of different coordinate systems including AMG66, AGD84 and at least 2 local grids. Validated drill holes were converted to the current GDA94 grid. A majority of historic collars were re surveyed by Ausmex in early 2020.</li> <li>However, a number of historic collars have been transformed from earlier map projections and local grids.</li> <li>Topographic control is provided by a high resolution DTM obtained by drone during 2017.</li> <li>All drill holes within the Ausmex database use MGA 1994, Zone 54.</li> </ul>
Data spacing and distribution	<ul> <li>Data spacing for reporting of Exploration Results.</li> <li>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.</li> <li>Whether sample compositing has been applied.</li> </ul>	<ul> <li>The data spacing is considered adequate for Mineral Resource estimation and establishes geological and grade continuity through the Mt Freda Mineral Resource.</li> <li>Drill spacing at Mt Freda is a nominal 20m x 20m and is considered adequate for the Mineral Resource classification.</li> <li>Drill spacing at Little Duke is a nominal 20m x 20m and is considered adequate for the Mineral Resource classification.</li> <li>Drill spacing at Comstock, falcon and Shamrock is a nominal 10m x 10m, and is considered adequate for the Mineral Resource classification.</li> <li>Drill holes within the database for Mt Freda, Comstock, Falcon and Shamrock were assigned a unique lode based on the numbering system. These are stored as intervals with a from/to depth and lode number within the "Ore zone" table. The unique database coding was used to control the compositing process.</li> <li>A downhole composite length of 1m was used. Intervals at the boundaries of the lode were not considered in the estimation where the composite length was less than 0.75m.</li> <li>Only composites contained within each individual wire frame were selected with estimation performed using the same individual wireframe as a hard boundary</li> <li>For Little Duke The revised drillhole data were then loaded into Micromine</li> </ul>

Criteria	JORC Code explanation	Commentary
		<ul> <li>Downhole compositing was undertaken at 2m intervals to even out narrow sampling intervals.</li> <li>Basic statistical plots were created, such as grade histograms for Au</li> </ul>
Orientation of data in relation to geological structure	<ul> <li>Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.</li> <li>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.</li> </ul>	<ul> <li>Wherever possible drilling has been designed to intersect the Mt Freda mineralised zone as close to perpendicular to the strike of the orebody as possible. This is however dependent on local access requirements for drill rigs.</li> <li>The drilling orientation is not considered to have introduced any sampling bias.</li> </ul>
Sample security	The measures taken to ensure sample security.	<ul> <li>There are no detailed reports on sample security from historic drilling, yet as this was completed by listed Companies via independent laboratories it could be assumed industry standard protocols were in place.</li> <li>All recent samples were transported to the Company's premises in Cloncurry by company personnel.</li> <li>The samples are then transported via courier to ALS Townsville in polyweave or plastic sample bags sealed with cable ties.</li> </ul>
Audits or reviews	• The results of any audits or reviews of sampling techniques and data.	There are no details on historic data reviews and audits, yet cross referencing historic company reports with recent results and plans does not reveal any discrepancies.

	(Criteria listed in the preceding section also apply to this section.		
	Criteria	JORC Code explanation	
020	Mineral tenement and land tenure status	<ul> <li>Type, reference name/number, location and agreements or material issues with third part ventures, partnerships, overriding royalties, historical sites, wilderness or national park a settings.</li> <li>The security of the tenure held at the time of known impediments to obtaining a license to be a set of the tenure held at the tenuse to be a set of the tenuse held at the tenuse to be a set of the tenuse held at the tenuse to be a set of the tenuse held at the tenuse to be a set of the tenuse held at the tenuse to be a set of the tenuse held at the tenuse to be a set of the tenuse held at the tenuse to be a set of the tenuse held at the tenuse to be a set of the tenuse held at the tenuse to be a set of the tenuse held at the tenuse to be a set of the tenuse held at the tenuse to be a set of the tenuse held at the tenuse to be a set of the tenuse held at the tenuse to be a set of the tenuse held at the tenuse to be a set of the tenuse held at the tenuse tenuse to be a set of the tenuse held at the tenuse tenuse to be a set of the tenuse held at the tenuse tenuses tenuse tenuse tenuse tenuse tenuses tenuse tenuse tenuses tenuses</li></ul>	
of gersonal	Exploration done by other parties	• Acknowledgment and appraisal of exploration	
	Geology	• Deposit type, geological setting and style of	

eral ment and tenure us	<ul> <li>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.</li> <li>The security of the tenure held at the time of reporting along with any known impediments to obtaining a license to operate in the area.</li> </ul>	<ul> <li>ML2718, ML2709, ML2713, ML2719, ML2741 &amp; EPM14163 are owned 100% by Spinifex Mines Pty Ltd. Ausmex Mining Group Limited owns 80% of Spinifex Mines Pty Ltd. Queensland Mining Corporation Limited own 20% of Spinifex Mines. Exploration is completed under an incorporated Joint Venture.</li> <li>80% beneficial interest in sub blocks CLON825U &amp; CLON825P from EPM15923 &amp; 80/20 JV with CopperChem</li> <li>EPM14475, EPM15858, &amp; EPM18286 are held by QMC Exploration Pty Limited. Ausmex Mining Group Limited owns 80% of QMC Exploration Pty Limited. Queensland Mining Corporation Limited own 20% of Spinifex Mines. Exploration is completed under an incorporated Joint Venture.</li> <li>ML2549, ML2541, ML2517 are 100% owned by Ausmex.</li> <li>All tenements are in good standing</li> </ul>
oration 9 by other ies	Acknowledgment and appraisal of exploration by other parties.	<ul> <li>All exploration at the Golden Mile tenements was completed by Ausmex.</li> <li>Mt Freda was subject to a series of drilling campaigns between 1985 and 2010. Diversified Mineral Resources (DMR) conducted RC and DD drilling in 1987/1988. Subsequent to this drilling campaign, DMR developed an open pit to a depth of 60m which provided approximately 100,000 tonnes of feed to an on-site carbon-in-pulp treatment plant.</li> <li>Subsequent to mining Amalg Resources NL (AMALG) and Queensland Mining Corporation both undertook further drilling campaigns in 1994/1995 and 2008- 2010 respectively.</li> <li>Subsequent to the 2010 drilling by QMC, an historic resource estimation was completed by QMC</li> <li>No further historic exploration was undertaken prior to Ausmex beginning exploration.</li> <li>Historic Mining has been completed on all tenements.</li> </ul>
logy	• Deposit type, geological setting and style of mineralisation.	<ul> <li>The mineralisation at Mt Freda is hosted in a volcano-sedimentary sequence predominately composed of basalts and sandstones. Mineralisation is not considered to be confined to a particular lithology.</li> <li>The mineralisation at Mt Freda, indicated by elevated gold grades, appears to be structurally controlled and is associated with shearing, brecciation and quartz veining. The mineralisation forms a single lens dipping around 65° towards the SSW. This zone pinches out along strike in both directions but is open at depth.</li> </ul>

Commentary

Criteria	JORC Code explanation	Commentary
		• The Golden Mile EPM 15858 contains several gold mineralised hydrothermal quartz reefs within the deposit containing Au, Cu, & Co with a detailed Geological summary within the report.
Drill hole Information	<ul> <li>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:         <ul> <li>easting and northing of the drill hole collar</li> <li>elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar</li> <li>dip and azimuth of the hole</li> <li>down hole length and interception depth</li> <li>total drillhole length.</li> </ul> </li> <li>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.</li> </ul>	Included in detail within the report and within Table 1.
Data aggregation methods	<ul> <li>In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (eg cutting of high grades) and cut-off grades are usually Material and should be stated.</li> <li>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.</li> <li>The assumptions used for any reporting of metal equivalent values should be clearly stated.</li> </ul>	<ul> <li>Details of the data aggregation for estimating techniques is described within the body of the report.</li> <li>No metal equivalents were reported.</li> </ul>
Relationship between mineralisatio n widths and intercept lengths	<ul> <li>These relationships are particularly important in the reporting of Exploration Results.</li> <li>If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.</li> <li>If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (eg 'down hole length, true width not known').</li> </ul>	Geological and mineralisation geometry is described within the body of the report.
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 eth body of the announcement.

	Criteria	JORC Code explanation	Commentary
	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.	• The exploration results and subsequent resource estimation are considered indicative of mineralisation styles within the region. All resource reporting is described within the body of the report.
	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.	<ul> <li>Previous metallurgical test work, and previous mining grades and recoveries are mentioned within the body of the report.</li> </ul>
	Further work	<ul> <li>The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).</li> <li>Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.</li> </ul>	<ul> <li>Scoping studies to review mining potential and additional exploration to extend known mineralisation are mentioned in the body of the report. Additional drilling to upgrade resources</li> </ul>
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# 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	JORC Code explanation	Commentary
Database integrity	<ul> <li>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.</li> <li>Data validation procedures used.</li> </ul>	• Historic data from hard copy reports has been captured within an access database. Historic data has been audited by Ausmex Geologists before entered, and cross referenced with recent data. Data base checks have been run by Ausmex geologists before Resource estimation commenced.
Site visits	<ul> <li>Comment on any site visits undertaken by the Competent Person and the outcome of those visits.</li> <li>If no site visits have been undertaken indicate why this is the case.</li> </ul>	• The Competent person has supervised the majority of Ausmex drilling on site and has conducted extensive site based mapping and interpretation with the assistance of Geological Consultants, also reviewing all drill core and assay results, as well as reviewing historical reports.
Geological interpretation	<ul> <li>Confidence in (or conversely, the uncertainty of ) the geological interpretation of the mineral deposit.</li> <li>Nature of the data used and of any assumptions made.</li> <li>The effect, if any, of alternative interpretations on Mineral Resource estimation.</li> <li>The use of geology in guiding and controlling Mineral Resource estimation.</li> <li>The factors affecting continuity both of grade and geology.</li> </ul>	<ul> <li>The deposits have been interpreted on 10 m geological sections by reviewing both geological interpretations, logging and grade, as well as considering interpretations from historic mining reports.</li> <li>Data has been supplied as a drill hole database but not limited to collar, survey, lithology and assay data. The database data has been audited by Ausmex geology staff and prior consultants</li> <li>The confidence in the geological interpretation is considered to be good, with continuous mineralised structures defined by good quality drilling.</li> <li>Mineralised lodes have been interpreted using a 0.3g/t nominal gold cut off and aided with the use of lithology, veining, structure to help identify the key shear structures. The confidence in the geological interpretation of the mineralisation is considered high. In the case of Mt Freda, the oxidation has also extended to a considerable depth of 300m within the shear zone</li> <li>Higher grades are typically observed within faults/brecciated structures.</li> <li>Detailed interpretations are within the body of the report.</li> </ul>
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.	<ul> <li>Little Duke: Extent of Mineral Resource defined by coverage of drilling and grade cut-offs: length 120m, width 100m, depth 130m</li> <li>Mt Freda; Strike length = 430m, Depth = 360m, Widths = 2-10m</li> <li>Comstock; Strike length = 195m, Depth 125m, Widths 2-5m</li> <li>Falcon; Strike length = 296m, Depth 165m, Widths 2-12m</li> <li>Shamrock; Strike length = 166m, Depth 152m, Widths 2-4m</li> <li>All mineralisation extends from surface, including Mt Freda from pit floor.</li> </ul>

eria:	JORC Code explanation	Commentary
imation I delling hniques	<ul> <li>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.</li> <li>The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data.</li> <li>The assumptions made regarding recovery of by-products.</li> <li>Estimation of deleterious elements or other non-grade variables of economic significance (eg sulphur for acid mine drainage characterisation).</li> <li>In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.</li> <li>Any assumptions about correlation between variables.</li> <li>Description of how the geological interpretation was used to control the resource estimates.</li> <li>Discussion of basis for using or not using grade cutting or capping.</li> <li>The process of validation, the checking process used, the comparison of model data to drill hole data, and use of reconciliation data if available.</li> </ul>	<ul> <li>Detailed explanation of the estimation technique is in the body of the report including:</li> <li>Mt Freda, Comstock, Falcon, and Shamrock grade estimation was carried out in Surpac using Ordinary Kriging (OK). Grades were composited to 1m and sample populations for each lode domain reviewed and a top cut selected to cap grade outliers. In most cases the 97.5<sup>th</sup> percentile of the sample population was used to select the top cut.</li> <li>Normalised spherical variograms were generated in Surpac to establish structures, orientation and ranges of the major, semimajor and minor axes. Significant lodes of similar orientation within the shear zone had composites combined for the purpose of determining the variography of the deposit. The ellipsoids were checked against the modelled lodes in 3D. Ranges of the axes (major, semimajor, minor) for the deposits are.</li> <li>Mt Freda; 53.4m x 16.7m x 11.9m</li> <li>Comstock; 21.2m x 16.4m x 4.08m</li> <li>Falcon; 15.8m x 7.8m x 3m</li> <li>Shamrock; 15.8m x 7.8m x 3m</li> <li>Estimation was carried out in 2 passes, the first was within the range of the variogram search ellipsoid by selecting a minimum of 3 and a maximum of 15 composites to inform the estimation. Only composites occurring within individual lode wireframes were estimated within those wireframes. In the second pass, the range of the ellipsoid was extended to 200m to completely fill the lode wireframe. The number of minimu mcomposites in the second pass were kept the same for Mt Freda however were relaxed to 1 for Comstock, Shamrock and Falcon</li> <li>Global checks against previous combined resource estimate for Golden Mile (Comstock, Falcon and Shamrock) show the difference to be less than 10% in terms of tonnes and grade.</li> </ul>

- Modelling did not consider selective mining units.
- Garde capping and cut offs were used in estimation and reporting and are

Criteria	JORC Code explanation	Commentary
		<ul> <li>explained in detail in the body of the report, including swoth plot checks.</li> <li>There was no mining reconciliation data available, yet metallurgical test work including cyanide consumption were reviewed and considered.</li> <li>Little duke was estimated using Micromine 3D modelling software. Interpolation by Inverse Distance Squared, based on gold and copper grades only with no assay top-cuts or geological domaining. Blocks split according to position above or below the base of complete oxidation surface.</li> <li>Little Duke block model 5m x 5m x 2m. Drillhole spacing average ~20m. Drillhole sampling intervals mostly 1m. Search radius 20m.</li> <li>estimated grades are in-situ.</li> <li>No assumptions made about correlation of variables</li> <li>Little Duke Block grades checked against drillhole assays on sections and plans in Micromine.</li> </ul>
Moisture	Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.	• All tonnages are estimated on a dry basis, all density samples were fresh core samples impervious to water.
Cut-off parameters	• The basis of the adopted cut-off grade(s) or quality parameters applied.	<ul> <li>Top cuts were applied to Mt Freda, Comstock, Falcon and Shamrock to the 97.7<sup>th</sup> percentile as explained in detail within the body of the report.</li> <li>There was no top cut applied to the Little Duke assays in estimation based on reviewing histograms of 2m composites used in the modelling process. Histograms display no extreme outliers for gold.</li> <li>Reporting cut-off grade was 0.5 g/t gold.</li> </ul>
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 made.	<ul> <li>All deposits have been selectively mined by underground or open cut methods mining methods.</li> <li>Portions of the resources are considered to have sufficient grade and continuity to be considered for underground mining, as well as open cut mining</li> <li>No mining parameters or modifying factors have been applied to the Mineral Resources.</li> <li>Mining assumptions have been based on all ore being processed by third parties utilizing current infrastructure in place and spare processing capacity.</li> </ul>

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Criteria	JORC Code 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.	<ul> <li>Processing has been undertaken on all projects by other parties. Metallurgical test work completed on Mt Freda in 2011 indicated 48-hour leach tests for gold producing up to 90% recoveries. Historic production at Mt Freda via CIP plant average 95% recoveries.</li> </ul>
Invironmenta factors or Issumptions	<ul> <li>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.</li> </ul>	<ul> <li>All mining assumptions are based on third party ore processing and tailings storage.</li> <li>Mt Freda is a granted Mining License with an EA in place and waste dump capacity available.</li> <li>The Golden Mile is subject to final Mining Lease approval with waste dumps on site. EA has been granted.</li> <li>All sites have previously been mined.</li> </ul>
Bulk density	<ul> <li>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.</li> <li>The bulk density for bulk material must have been measured by methods that adequately account for void spaces (vugs, porosity, etc), moisture and differences between rock and alteration zones within the deposit.</li> <li>Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.</li> </ul>	<ul> <li>Bulk dry density was determined at Mt Freda from 41 fresh samples and 5 oxidized samples. No density information was available for the Golden Mile Deposits (Comstock, Shamrock &amp; Falcon). A determination to use the Mt Freda bulk densities was determined after reviewing the database lithologies and discussions with site personnel.</li> <li>The densities were determined at ALS using the OA-GRA08 method as described as follows; The rock or core section (up to 6 kg) is weighed dry. The sample is then weighed while it is suspended in water. The specific gravity is calculated from either of the following equation:</li> </ul>
		<b>OA- GRA08</b> Specific Gravity = $\frac{\text{Weight of sample (g)}}{\text{Weight in air (g) - Weight in water (g)}}$
		<ul> <li>Average density measurements from Mt Freda were assigned to the Mt Freda model as follows; Oxide = 2.5, Fresh = 2.7. Densities appear to be representative for the deposit when reviewing density measurement lithologies against the</li> </ul>

Criteria	JORC Code explanation	Commentary
		<ul> <li>lode lithologies.</li> <li>No density data was available for Little Duke Comstock, Shamrock or Falcon. The oxide and fresh densities of Mt Freda have been applied on the basis of similar lithologies and weathering observed by site personnel.</li> <li>All samples were fresh with no vugs or pores.</li> </ul>
Classification	<ul> <li>The basis for the classification of the Mineral Resources into varying confidence categories.</li> <li>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).</li> <li>Whether the result appropriately reflects the Competent Person's view of the deposit.</li> </ul>	<ul> <li>The resources were classified as follows.</li> <li>Indicated Resources; Blocks filled in the first pass of the estimation to the range of the search ellipsoid determined by variography. Based on the level of drilling in each deposit an additional constraint of minimum number of drill holes used to estimate the block was imposed. For each deposit this was as follows.</li> <li>Mt Freda; 2 or more drill holes informing estimation.</li> <li>Comstock; 3 or more drill holes informing estimation.</li> <li>Shamrock; 2 or more drill holes informing estimation.</li> <li>Falcon; 2 or more drill holes informing estimation.</li> <li>Little Duke; 2 or more drill holes informing estimation.</li> <li>Inferred Resources; All blocks estimated in the second pass of the estimation (to the limit of the lode wireframe) or not filled in the first pass due to the minimum number of holes constraint were given an Inferred classification.</li> <li>The resource classification of the estimate appropriately reflects the Competent Person's view of the deposit.</li> </ul>
Audits or reviews	• The results of any audits or reviews of Mineral Resource estimates.	<ul> <li>The estimates for Mt Freda, Comstock, Falcon Shamrock and Little Duke were completed by Mr Paul Tan. The estimate for Little Duke was completed by Mr Murray Hutton.</li> <li>Mrs Nicole Warland completed a peer review.</li> </ul>
Discussion of relative accuracy/ confidence	<ul> <li>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.</li> <li>The statement should specify whether it relates to global or local estimates, and if local state the relevant tonnages which should be relevant to</li> </ul>	<ul> <li>The resource estimate is considered to be delivered with a high level of confidence.</li> <li>The approach to the resource estimation is deemed appropriate and the level of accuracy and confidence of the gold grade estimates deemed high by the competent person with respect to the resource categories assigned. Statistical analysis was completed to support the results</li> <li>Densities at Mt Freda are appropriately assigned based on available quantitative data. The assigned oxide and fresh rock densities for the Gold Mile</li> </ul>

Criteria	JORC Code explanation	Commentary
	<ul> <li>technical and economic evaluation. Documentation should include assumptions made and the procedures used.</li> <li>These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.</li> </ul>	<ul> <li>Deposits (Comstock, Shamrock and Falcon) have been assigned the Mt Freda densities based on similar geology. Actual density measurements will improve the relative accuracy and confidence of the estimate.</li> <li>The estimate contains a global resource, with individual resource definition described in detail within the body of the report. The deposits are not currently being mined, yet resource estimates have produced average grades lower than previous production records.</li> <li>The consistent lode geometries and continuity of mineralisation is reflected in the Mineral Resource classification. The data quality is good, and the drill hole data used has detailed logs produced by qualified geologists.</li> </ul>