10 December 2018

Europa Metals Ltd

("Europa Metals", the "Company" or the "Group") (ASX, AIM, JSE: EUZ)

Scoping Study Results and Revised Mineral Resource Estimate for the Toral Project, Spain

Cautionary Statement

The scoping study referred to in this announcement (the "Scoping Study" or the "Study") has been undertaken by Addison Mining Services Limited ("AMS") to review initial build and operating cost estimates for the Company's wholly owned Toral lead, zinc and silver project in Spain (the "Toral Project" or "Toral") in order to determine whether further development of the project is warranted.

The Scoping Study is a preliminary technical and economic study of the potential viability of the Toral Project. It is based on low level technical and economic assessments that are not sufficient to support the estimation of ore reserves. There is a low level of geological confidence associated with Inferred Mineral Resources and there is no certainty that further exploration work will result in the determination of Measured or Indicated Mineral Resources. For this reason, in accordance with Section 8.5, ASX Guidance Note 31, Europa Metals cannot disclose production targets, forecast financial information or income-based valuations related to the Scoping Study, but instead discloses appropriate information of a technical nature to ensure that the market is properly informed of the Company's prospects. Accordingly, the Company hereby makes certain aspirational statements, announces exploration targets and discloses parts of the Study that do not contain production targets.

The estimated Mineral Resources used for the Study are updated versions of those reported in the Company's announcement on 20th of September 2018, updated with an effective date of 29 October and an issue date of 3 December 2018, and announced herein. The Scoping Study was based on Inferred Resources. Confidence in the estimate of Inferred Mineral Resources is not sufficient to allow the results of the application of technical and economic parameters to be used for detailed planning in pre-feasibility or feasibility studies. For this reason, there is no direct link from an Inferred Mineral Resource to any category of Ore Reserves.

The Scoping Study was based on the material assumptions outlined below. These include assumptions about the availability of funding. Whilst Europa Metals considers all of the material assumptions to be based on reasonable grounds, there is no certainty that they will prove to be correct or that the range of outcomes indicated by the Scoping Study will be achieved. To achieve the range of outcomes indicated in the Scoping Study, funding in the order of AU$9 million (£5 million) will likely be required. Investors should note that there is no certainty that Europa Metals will be able to raise that amount of funding when needed to progress development. It is also possible that such funding may only be available on terms that may be dilutive to or otherwise affect the value of Europa Metals' existing ordinary shares. It is also possible that Europa Metals could pursue other 'value realisation' strategies such as a sale, partial sale or joint venture of the Toral Project. If it does, this could materially reduce Europa Metals' proportionate ownership of the project.

Given the uncertainties involved, investors should not make any investment decisions based solely on the results of the Scoping Study.

Announcement

Scoping Study Highlights:

- Positive Scoping Study completed for Europa Metals' Toral lead, zinc and silver project
- Three conceptual underground mining development and production scenarios considered throughout the Study
- The conceptual scenario selected progresses decline access ramp with a high grade focus
    - Mechanised Cut and Fill (MCAF) mining method proposed
    - Entry to mine via a principal decline reaching various levels
    - Series of internal mining inclined ramps constructed to access levels
    - A ventilation raise would be drilled (raise-bored) to provide both adequate ambient conditions underground and a second, emergency means of access/egress into the mine
    - Ore transported to a flotation process plant by conveyor or haul truck from the mine and crushed to a suitable product for milling
    - Milled ore floated by standard flotation technology to provide two products: lead and zinc concentrate. Silver will probably report to the lead concentrate for sale as a combined product
    - 4x4 metre mine standard development size
    - 4% Zn Eq cut-off used with potential for mine life extension
- **Key Recommendations:** Infill drilling campaign to convert resources to the Indicated category (JORC 2012), metallurgical and geotechnical test work and progression to a full feasibility study

Europa Metals, the European lead-zinc explorer, is pleased to announce the results of an independent Scoping Study completed in accordance with JORC 2012 for its wholly owned Toral Project located in the Castilla y León region, Northwest Spain. The findings of the Study are positive with a recommendation that the Toral Project should be progressed towards a feasibility study to determine full economics, technical and environmental parameters for an underground mining operation focussed on near-term recovery of the higher-grade mineralised zones.

Further to discussions with the ASX and in accordance with Section 8.5 of ASX Guidance Note 31, the Company will not make public any economic forecasts from the Scoping Study until further work has been undertaken to prove up at least 60% of the estimated resource from an Inferred to the Indicated category as per the JORC (2012) guidelines. The comprehensive Scoping Study will be made available in full to industry groups on application to the Company. Key elements include:

- Three conceptual underground mining development and production scenarios considered throughout the Study
- The conceptual scenario selected progresses decline access ramp with a high grade focus
- 4x4 metre mine standard development size
- Mining method and production schedule over estimated mine life
- Efficient mining block sequence identified

- **Key Recommendations:** Infill drilling campaign to convert resources to the indicated category (JORC 2012), metallurgical and geotechnical test work and progression to a full feasibility study.

Commenting today, Laurence Read, Executive Director of Europa Metals, said:

"After an intense year of activity Europa Metals has successfully obtained a highly detailed Scoping Study, which clearly recommends that we progress our Toral Project in order to investigate distinct high grade resource areas and complete all of the necessary metallurgical testwork. The Study also identified an anomaly in the license area during the finalisation stage of the report which has now been investigated and rectified.

"The work undertaken on the Scoping Study models a series of development scenarios, from which one clear path has become apparent. We shall now use the Study to inform a core part of our strategy for 2019 as we aim to progress with a full feasibility study. We look forward to announcing results from our first diamond drill campaign shortly and to continue work on this promising project next year."

Commenting today, Myles Campion, Executive/Technical Director of Europa Metals, said:

"Both our team on site at Toral and AMS have delivered a robust and positive Scoping Study, on time and on budget. We identified the clear potential of the asset last year and have taken a big step forward with this Study in identifying where value can be further defined and most efficiently extracted.

"I look forward to advancing our understanding via further work on the Toral deposit next year."

Revised JORC (2012) resource estimate

An updated JORC (2012) resource estimate is included within the Scoping Study comprising 16 million tonnes, in the Inferred category, @ 7.5% Zn equivalent (Pb, Ag), 3.9% zinc, 3.1% lead and 24g/t silver equating to 640,000 tonnes of zinc, 510,000 tonnes of lead and 13 million ounces of silver*. The reduction in the resource is due to a coordinate anomaly on the licence area, discovered during the verification process on the final draft of the Scoping Study, that resulted in an error and subsequent shift in the historical licencing coordinates. The area that now falls outside the Toral licence is the NW tip of the resource, however the Company will be able to make an application to bring it into the Toral licence area upon the future granting of a mining licence for the Toral Project. In any event, this area of the resource was considered to be outside of the Company's focus due to its proximity to the River Sil and its shallow narrow intersection characteristics.

*Zn Eq (PbAg)% is the calculated Zn equivalent incorporating silver credits as well as lead; (Zn Eq (PbAg)% = Zn + Pb*0.96 + Ag*0.022). Zn equivalent calculations were based on 3-year trailing average price statistics obtained from the London Metal Exchange and London Bullion Market Association giving an average Zn price of US$2,500/t, Pb price of US$2,100/t and Ag price of US$17/oz.

2019 Outlook

The Company currently anticipates that the results from its first diamond drilling campaign will be available in mid-December 2018, following the reliance of which it will look to expeditiously progress its Toral Project during 2019, with the following key objectives:

- commencement of an Environmental Impact Study and all baseline work for the duration of 2019;

- completion of a surface work programme, currently underway, to remap the licence area and incorporate new data into the Toral model;
- conducting an infill diamond drilling programme targeting a distinct high grade area of the resource. Drilling will seek to convert the Inferred resource into the Indicated status, and undertaking both the requisite metallurgical and geotechnical test work in order to progress the Toral Project towards a feasibility study.

Additional information on the Scoping Study

Mining Summary

AMS were engaged by the Company in June 2018 to undertake a scoping study on the Toral Project. The project area is slightly mountainous, with elevations of up to 740 metres above sea level (masl), and with rivers forming the base of the topography at 415 masl. Mineralisation is encountered at surface and, based on current testing, extends to approximately 1,100m below the surface. Following the completion of recent exploration work, mineralisation has been tested across a 2,800m strike length and the orientation of the mineralisation zone is approximately 110 degrees, averaging approximately 3 metres in thickness. Mineralised is hosted in a dominant single structure or "lode" along and immediately adjacent to the limestone-slate contact, with six subordinate lodes.

The region and immediate local area surrounding the project has been host to a mining industry for a significant period of time with the adjacent, Antonina lead-zinc mine (1935-1983) situated 2km away from Toral. Data sets to determine the potential for a viable lead-zinc mine are as follows:

- zinc equivalent Inferred Resource of 16 Mt (7.5% Zn equivalent with Pb and Ag credits) and 24 g/t Ag with 640,000 contained tonnes of zinc, 510,000 contained tonnes of lead and 13 million ounces of contained silver;
- historical mining data for mines in the area including metallurgical assumptions, supported by recent mineralogical studies;
- detailed examination of equivalent plant types currently in operation in terms of throughput and costs; and
- potential routes for product based on known existing concentrate-smelter routes for lead-zinc in the wider region.

The Scoping Study concluded that, as a result of the Toral deposit being sub vertical and its particular combination of depth and thickness, underground mining is a viable development option.

The results of the Scoping Study also suggest that the Toral Project should be investigated to a feasibility study stage in order to determine full technical and economic viability for a high-grade lead-zinc-silver mine with the potential for extension of mineralisation outside of the currently estimated conceptual mine life. Plant construction and processing is anticipated to be low cost with concentrate production modelled on existing long-term metrics for other mines in the region. The focus for Europa Metals will be to move the existing high-grade resources from Inferred to the Indicated category (JORC 2012) and conclude metallurgical testing on samples to confirm the processing assumptions for final concentrates.

Updated Mineral Resource

As part of the Scoping Study's licence tenure and permitting investigative work and verification checks, an identified permit location shift has prompted the requirement to revise the previously reported Toral Mineral Resource Estimate within Europa Metals' licence 15.199 and update the input mineral resource block model used for the purposes of the Scoping Study.

The issue has arisen due to a legacy discrepancy between the historical and current coordinate systems used in the mining and permitting industry in Spain. The Mineral Resource estimate was therefore updated due to a coordinate discrepancy and, as such, the block model was also updated to reflect this change. The reduction in the reported resource through the tenement shift in no way affects the Scoping Study and economic potential of the project.

The portion of the deposit affected by the boundary issue, containing approximately 3 million tonnes of mineralisation, is in the north-western extension of the deposit, a very narrow area not currently considered to be of interest in terms of future mining. The adjustment to the input block model in no way affects the technical and economic findings of the Scoping Study at this stage.

Under Spanish mining law the area concerned can be secured by Europa Metals at the point the Company converts its exploration licence to a mining licence, as it cannot be claimed by third parties, except for the very far western extension, due to the presence of a limestone quarry that operates at surface. It is envisaged that the quarry will attract little interest due to the elements on surface including a national road and a river; accordingly, the quarry area can only be mined by underground methods for high value minerals, if determined economically viable.

Apart from the area under the limestone quarry, which will require direct negotiation with its owner, the other areas are subject to a defined procedure set out under Spanish mining law and it is currently anticipated that such areas will be incorporated into Europa Metals' Toral property upon future grant of a mining license. The Board of the Company believes that there are no competitors in relation to securing this further acreage.

The above mentioned reduction in the licence area has led to a temporary loss of approximately 3 million tonnes of resource as set out in Table 1 and Figure 1 and Figure *2*.

Table 1: Comparison Between the September 2018 and December 2018 Reduced Licence Area

4% Zn Eq (PbAg)%	Tonnes (Millions)	Density g/cm^3	Zn Eq (Pb)%	Zn Eq (PbAg)%	Zn %	Pb %	Ag g/t	Contained Zn Tonnes (000s)	Contained Pb Tonnes (000s)	Ag Troy Oz (Millions)
September 2018 Resource	**19**	**2.8**	**6.9**	**7.4**	**3.9**	**3.1**	**24**	**720**	**570**	**14**
December 2018 Resource	**16**	**2.8**	**7**	**7.5**	**3.9**	**3.1**	**24**	**640**	**510**	**13**

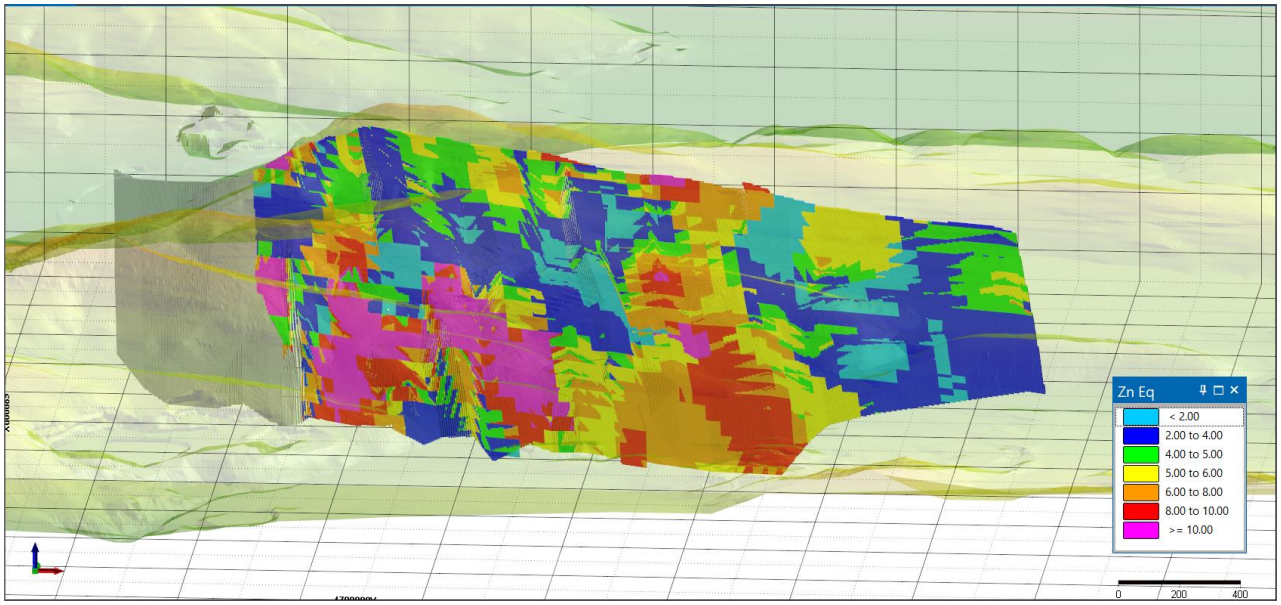

Figure 1: *Resource Outside of Current Licence Area Looking North*

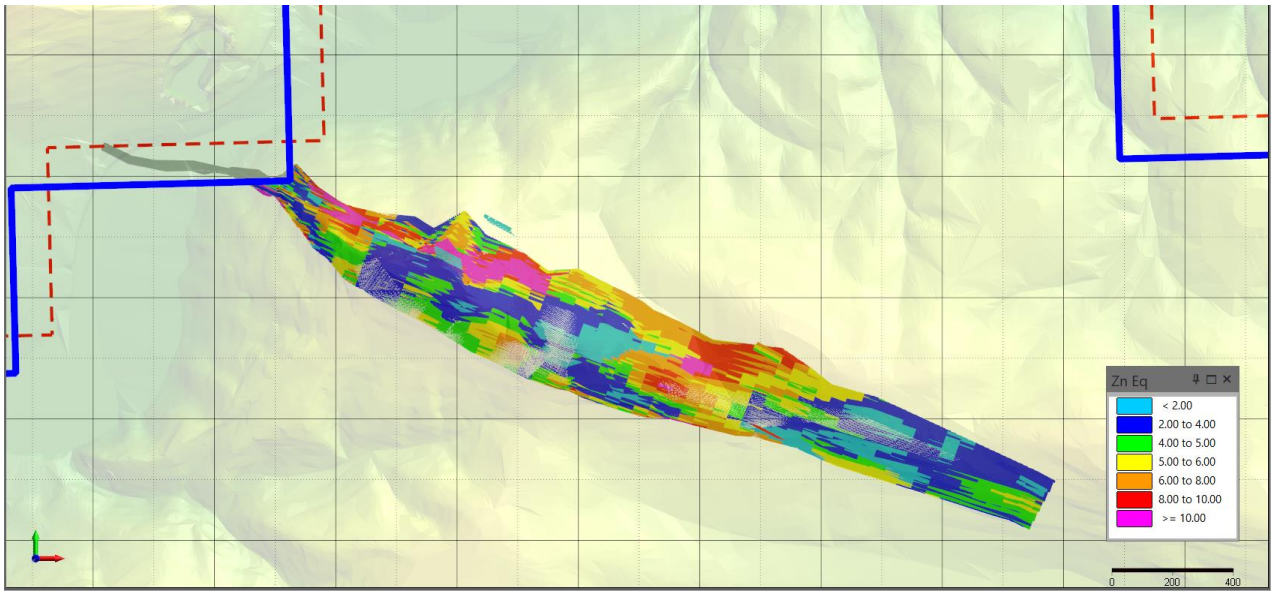

Figure 2: *Resource Outside of Current Licence Area in Plan*

Mine Development Scenarios

Entry into the mine would be via a principal decline to reach the various levels, and internally, within the mine, a series of inclined ramps would be constructed to access the various levels. A ventilation raise would be drilled (raise-bored) to provide both adequate ambient conditions underground and a second, emergency means of access/egress into the mine. Actual positioning of this ventilation raise will be decided at the feasibility stage.

Ore would be delivered to a flotation processing plant by conveyor or haul truck from the mine and crushed to a suitable product for milling. The milled ore would then be floated by standard flotation technology to provide two products – a lead and a zinc concentrate. The silver would probably report to the lead concentrate, the combined metal product then being sold for process separation by the purchaser. These concentrates would be marketable on the open market or via specialist traders.

Two conceptual mining sequencing scenarios were considered:

1. The first approach considered was to dig the mine access decline from surface and to mine the near surface +4% mining blocks to start the mine production sequence as quickly as possible. However, these higher-level blocks are relatively low-grade blocks, due to the current thickness of sub-2.5m and resultant applied grade dilution. In terms of decline approach mining blocks 1 through to 10 have been identified, progressing down to block 20 and zero RL, then across to higher grade core as shown in the mining block model in Figure 3.

2. The second approach targeted mining blocks in the high-grade mineralised core directly, as these blocks in the centre of the mine might prove more attractive financially even though these blocks would take longer to access, being deeper into the mine. Commencing production at mining block 21 (labelled in Figure 3) onwards, mining the lower numbered mining blocks later in the life of mine– **this approach has been identified as the preferred option for further investigation.**

Conceptual sequencing scenarios 1 and 2 in relation to the diluted block model Zn Eq grades are shown below in Figure 3. Conceptual mine access and haulage designs are shown in Figure 4 and 5.

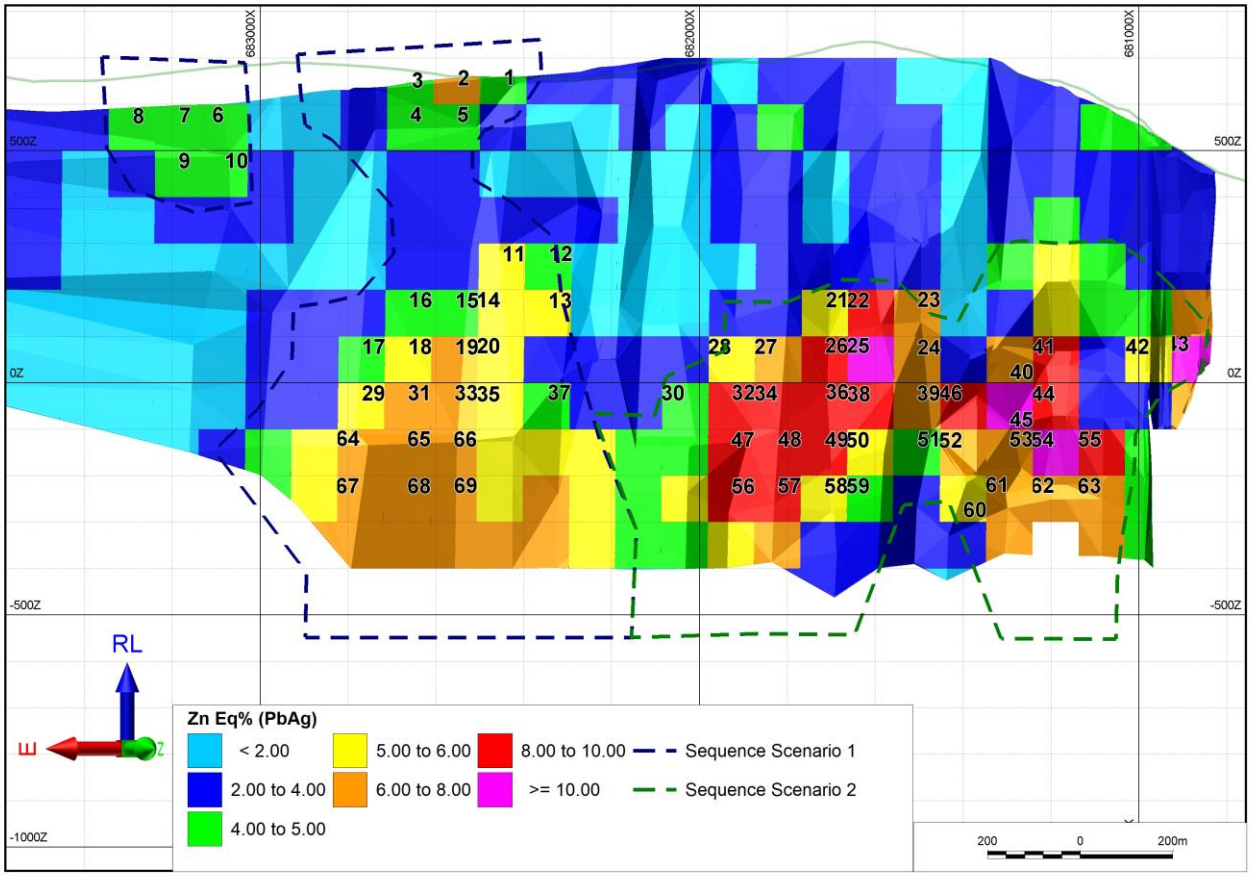

Figure 3: Conceptual Sequence scenarios 1 and 2 and diluted Zn Eq (Pb, Ag) mining block grades

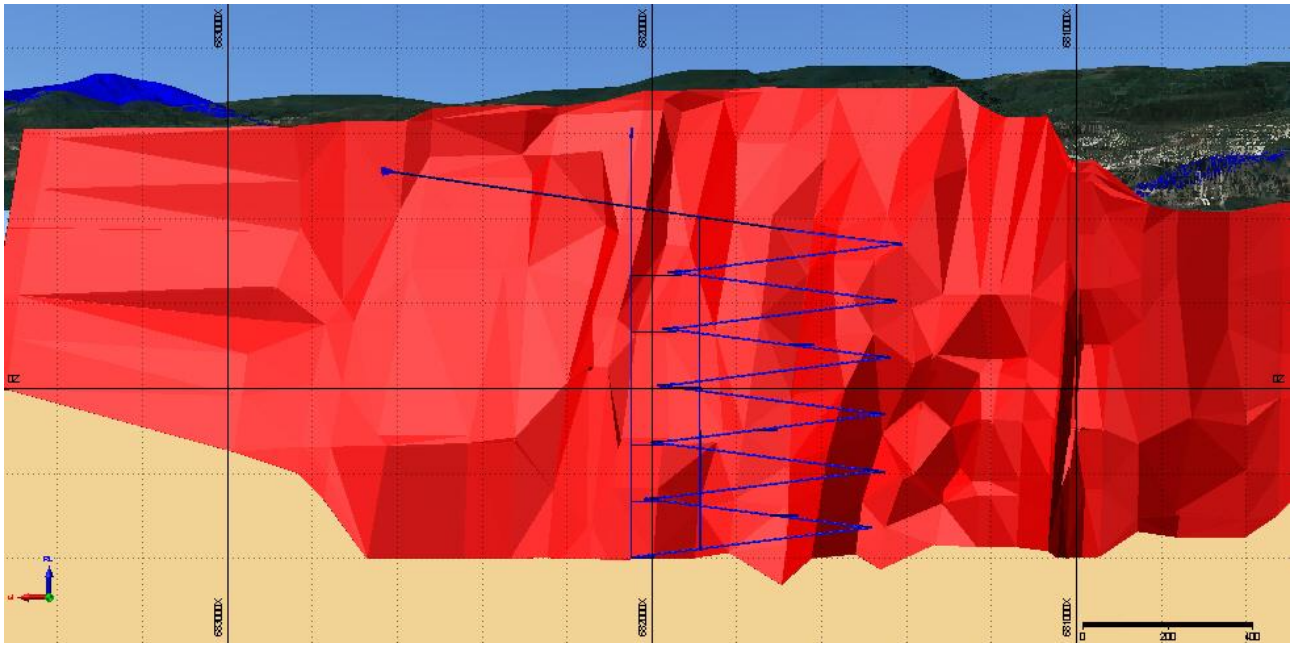

Figure 4: Toral Pb-Zn 3D Solid Model, Conceptual Access Decline and Haulage Shaft 3D view looking South

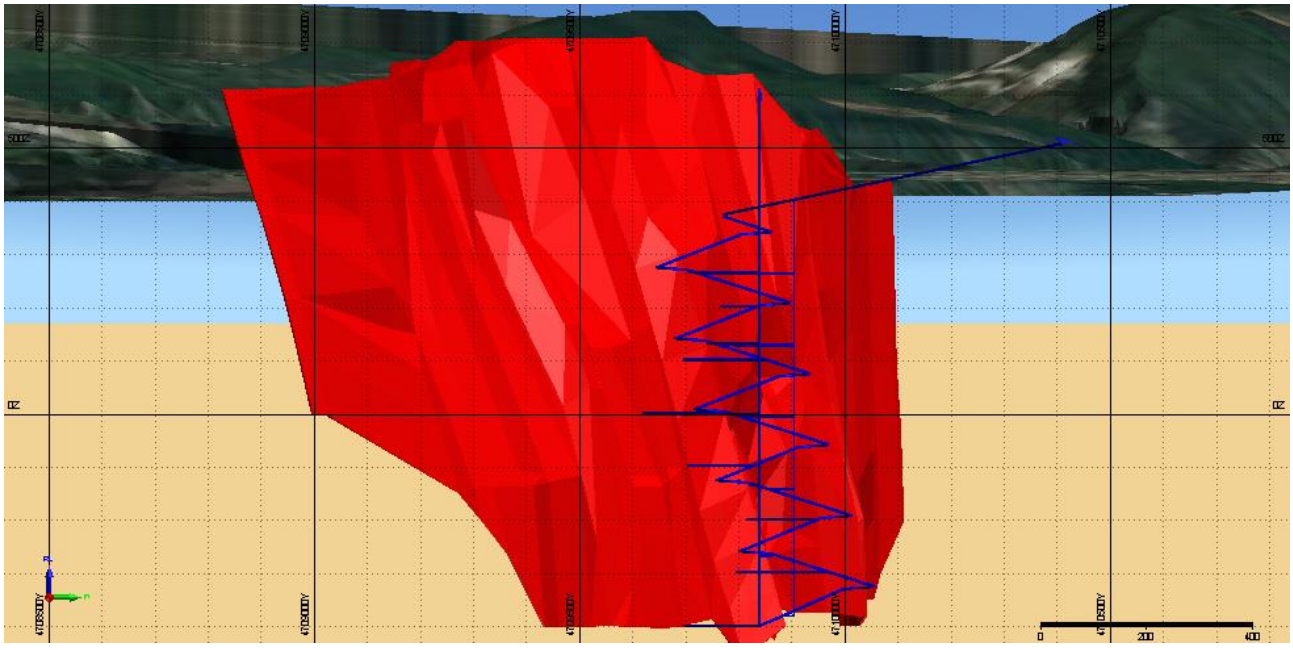

Figure 5: Toral Pb-Zn 3D Solid Model, Conceptual Access Decline and Haulage Shaft 3D view looking West

Because the schedule is based on Inferred resources, it should be considered to be indicative only for the purposes of the Scoping Study and is not a statement of intended fact. Mine standard development size will be 4 m x 4 m.

Mineral Processing

The conceptual processing plant for Toral includes:

- three-stages of crushing;
- single stage of ball mill grinding. The ball mill will operate in a closed circuit with a cluster of hydro-cyclones;
- sequential Pb and Zn flotation circuits, each incorporating three cleaning stages;
- concentrates and tailings dewatering circuits using thickeners; and
- concentrates and tailings storage and load-out facilities.

The three-stage crushing circuit will reduce the material with an anticipated top size of 600mm to an anticipated product size of 80% passing (P80) 12 mm.

The subsequent single stage grinding circuit will target a probable P80 grind size of 75 µm, before Pb and Zn are recovered into rougher concentrates using sequential flotation. The rougher concentrates will be reground to a size to be confirmed before using a cleaner flotation circuit, but 20 to 35 µm may be needed. The provisional plant flow block diagram is shown in figure 6.

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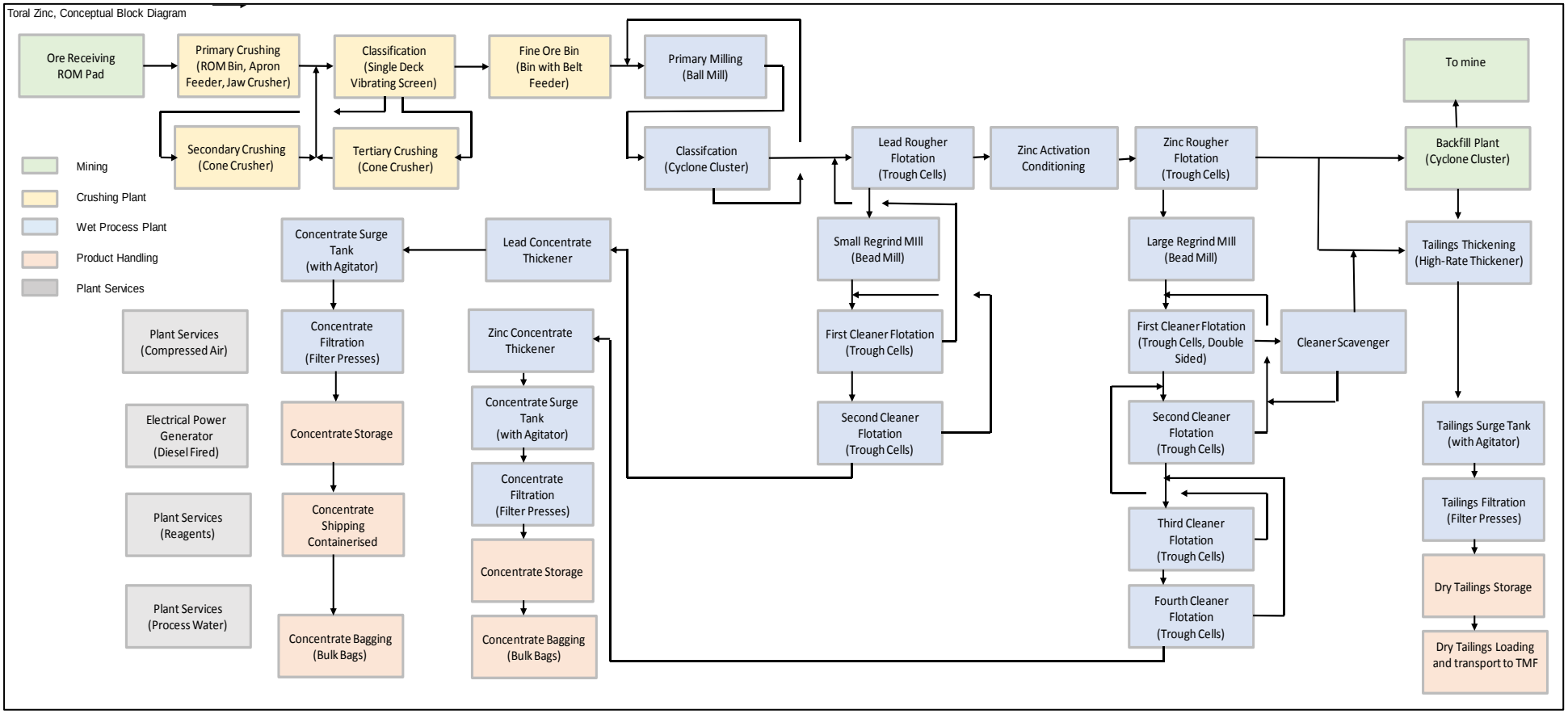

Mine Access

It is proposed that the main access into the Toral underground mine would be via a decline. However, because of the known vertical extent of the deposit, ore haulage by means of this decline would most likely be uneconomic below around 600m in vertical depth. Accepted practice is that decline haulage usually is uneconomic at vertical depths of greater than 600m. Ore haulage would therefore be by alternative means, as discussed below.

Since ore haulage in trackless vehicles would not be economic at the sorts of depths anticipated at Toral, it is proposed to mine a raise-bored shaft, equipped with rope guides, to be used as a rock hoist.

Because the decline is not intended to be used as an ore haulage route, the gradient may be made steeper than if diesel trucks were being used. The choice of gradient for the haulage case is 8% - based on good practice for trackless vehicles. Steeper gradients are possible, and manufacturers claim that steeper grades are possible, but experience dictates that there is a longer-term cost to employing steeper gradients. On the other hand, where regular haulage in the decline is not proposed, a gradient of 12% is acceptable.

Plant Location

Following a desk study review of six sites, three potential plant sites were identified and investigated further, located on the Northern flank of the Toral ridge, as shown in Figure 7. Of the three, two are within the licence boundary and represent likely candidates for further investigation and qualification as part of next step feasibility work*.*

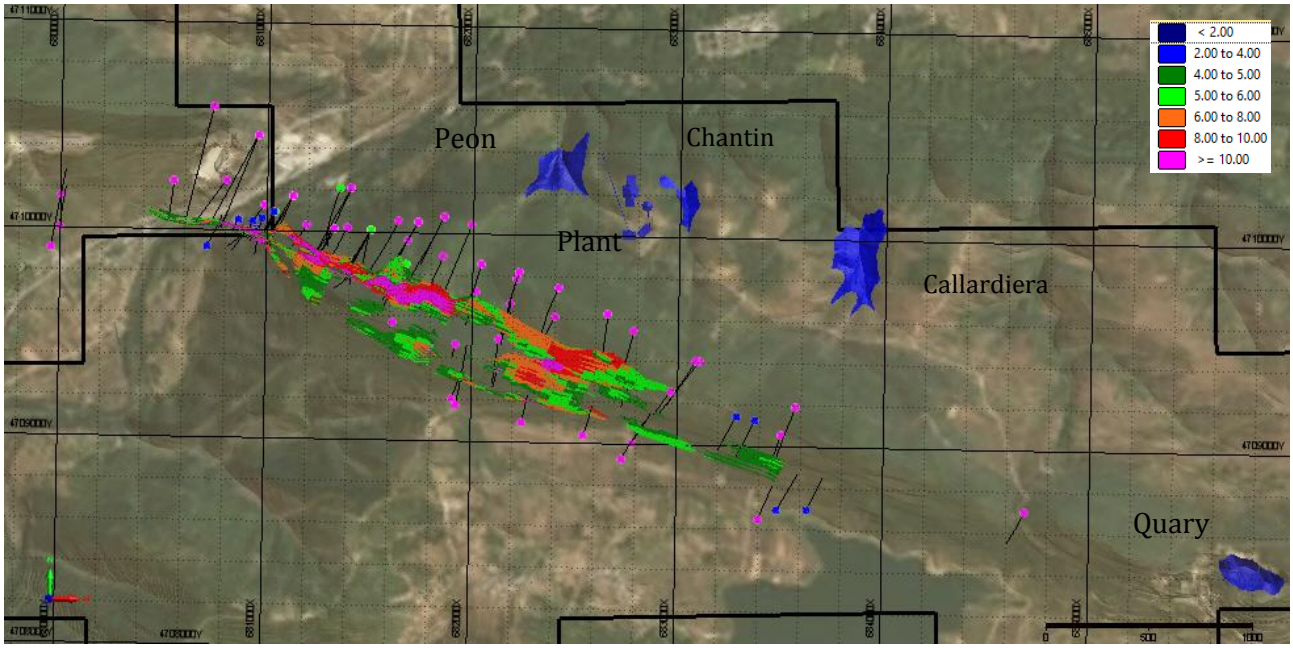

Figure 7: Toral Plant and Tailings Locations and resource model >4% ZnEq. Plan View.

Conceptual plant layout for sites at Chantin and Peon and conceptual plant 3D solids for Chantin are shown below in Figure 8 and 9 respectively.

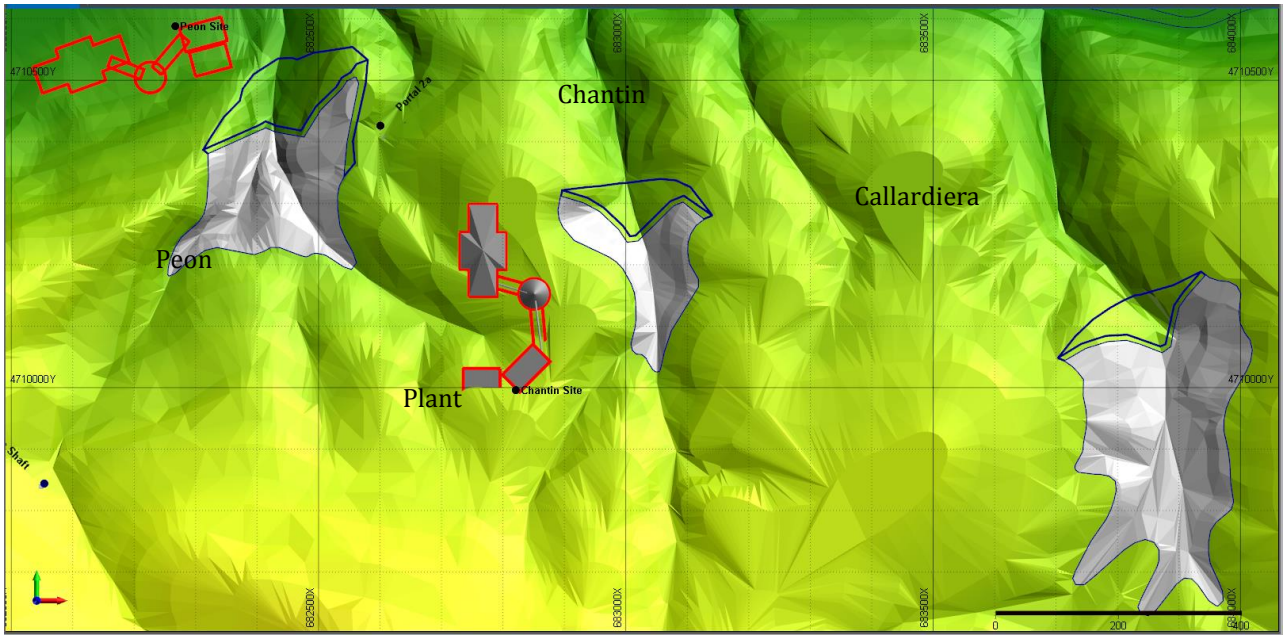

Figure 8: Conceptual Plant Layout for Chantin and Peon Sites, and conceptual tailings sites

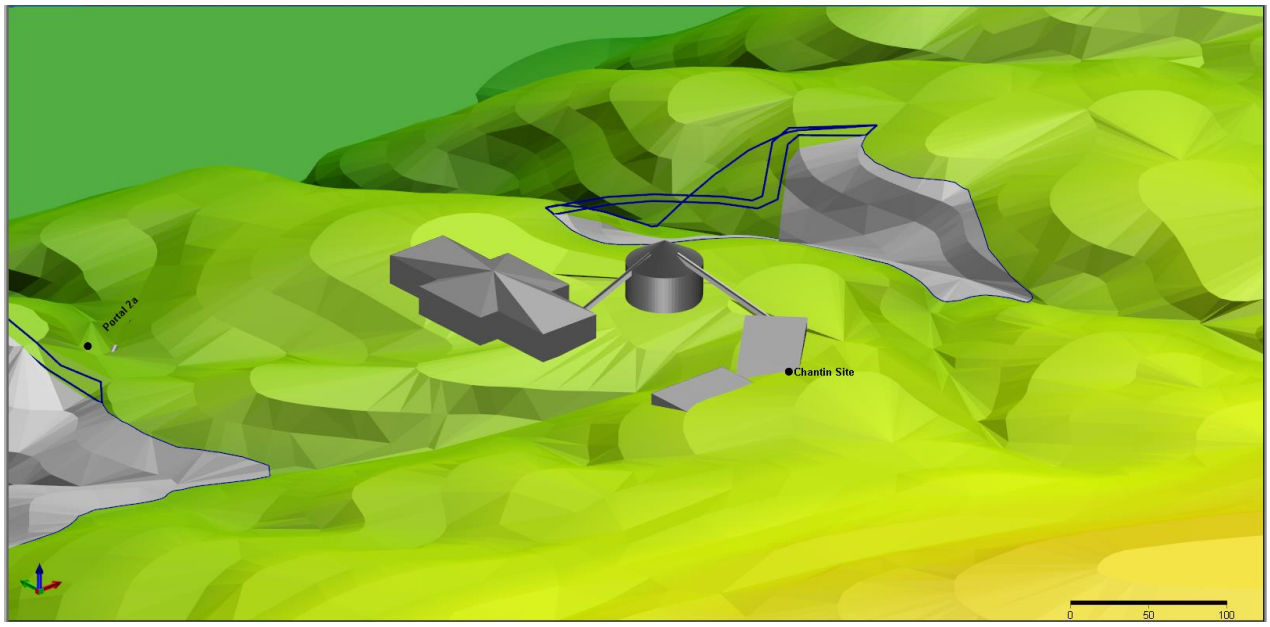

Figure 9: Conceptual Plant 3D Solids tailings for Chantin Site

Indicative Mining

The choice of mining method is based on the following factors:

- relatively narrow ore zones (~3m)
- steeply dipping zones
- weak mining footwall - slates
- good hanging wall (carbonates)
- medium grade ore - 4 - 8 % Pb/Zn equivalent range

Mechanised Cut and Fill (MCAF) is the proposed method within the Scoping Study. To investigate the ability to mine economically and in sufficient quantities, AMS generated a resource block model with a minimum mining width of 2.5m, with dilution factor applied. This had little material effect on the overall resource grade but would ensure that the more productive mining method of MCAF can be employed and help identify those areas where local dilution does significantly impact on grade for exclusion from the conceptual production plan, and/or possible application of other methods of mining.

Main access levels would be developed at 100 metre vertical intervals from which stope accesses would be developed. A stope block would be 50 metres in height and would be up to 100 metres along strike. Much of the development would be in the mineralisation. At the base of the stope would be an extraction drive from which an ore pass raise would be developed. At the stope sill level, about 5 metres above the extraction drive, the first cut would be developed along strike, advancing as a single face at a height of 5 metres. At the end of the stope, the hanging wall would be extracted in retreat by drilling uppers back along the stope length. Blasted ore would be handled by Load, Haul Dump machine ("LHD") into the ore pass raise for mucking on the extraction level into haul trucks. At the end of the first pass, the stope floor would be raised by a combination of waste rock and classified tailings hydraulically placed.

On completion of the fill cycle, stoping activity would be resumed. The ore pass raise would be extended by concrete segments up through the fill and the stope progresses upwards. The stope will extend upwards to a level around 4 metres below the extraction level of the stope above. This crown pillar might be extracted in future and the design for this will be elaborated in any future feasibility study.

In some areas, where the mineral width is less than the minimum mining width of 2.5m, the stope has been bulked out by introducing lower grade surrounding material. Although this has the effect of reducing the stope grade, it will enable the use of a more efficient and lower cost mining method and identify those areas where dilution does significantly impact on grade for exclusion from the production plan, or possible application of other methods of mining.

A schematic diagram for mechanised cut and fill is shown in Figure 10.

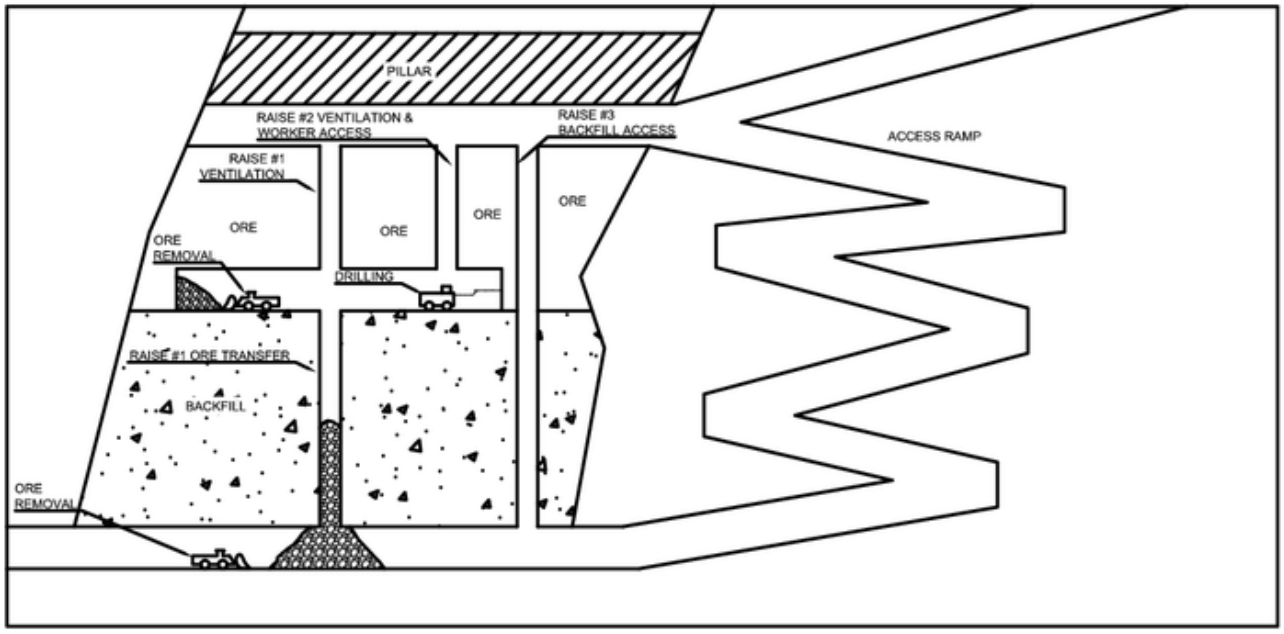

Figure 10: Schematic Mechanised Cut and Fill Diagram (Source: Queens University Mines Department)

Waste Rock

Waste rock from initial underground development before backfilling is required, if suitable, will be utilised for construction and for the initial starter wall for tailings facilities.

It is not anticipated that Acid Mine Drainage (AMD) or Metal Leaching (ML) will be a significant issue from the Toral waste rock as the deposit is associated with high acid-consuming carbonates /dolomite. Nevertheless, ore, waste rock and tailings will be the subject of a comprehensive geochemical characterisation study with AMD/ML predictive testwork as part of the Environmental and Social Impact Assessment (ESIA) and technical studies. Utilisation of waste rock will be determined by these studies.

Any surface placement of waste rock will minimise haul distance; stay within the mine's lease area; fit the natural terrain and be at sufficient distance from the Sil River to allow water management; avoid archaeological sites and important cultural/tourist sightlines and will not compromise further ore targets. At this stage of the Toral Project's planning it is anticipated that waste rock will be co-disposed of with process tailings.

Market Studies and Contracts

No market studies have been completed for the project at this time, but the zinc concentrate produced at Rubiales (28 km from Toral) was noted to contain 0.12% cadmium and 0.16% mercury so mine product is likely to need appropriate blending at smelters.

No contractual arrangements for smelting exist at this time. Furthermore, no contractual arrangements have been entered into for the potential future sale of zinc or lead concentrate at this time. These are assumed and will require further investigation and negotiation as part of a pre-feasibility study, however, the Scoping Study notes the following:

- Glencore plc provides options at Asturiana and Portovesme, also Nordenham in Northern Germany.
- Transport of concentrate by boat to Scandinavia and Northern Germany could be an option if Asturiana and Portovesme are not suitable.
- The third party, Tara Mine's, Pb-Zn concentrates are shipped via Dublin Port to Boliden AB's smelters in Kokkola, Finland and Odda, Norway.

- Nyrstar N.V. has smelters in Europe while Boliden AB has smelters in Scandinavia.

Capital and Operating Costs

As 100% of the Mineral Resources at Toral are currently in the Inferred category, in accordance with Section 8.5 of ASX Guidance Note 31, the Company is not able to publish a production target or forecast financial information at this time.

Economic Analysis

Europa Metals commissioned AMS to undertake a financial modelling exercise for the Toral Project, based on a number of different processing scenarios and mining methods. The results of this exercise, as well as the overall positive outcomes of the Scoping Study, supports the commencement of a full feasibility study. However, since 100% of the Mineral Resources at Toral are currently in the Inferred resource category, in accordance with Section 8.5 of ASX Guidance Note 31, the Company is not able to publish a production target or forecast financial information at this time.

Resource Statement

For the purposes of the Scoping Study, the input block model resource estimate used was an updated version of that reported in the Company's announcement of 20 September 2018 and is set out below:

The reported total Inferred resource estimate for the Toral Project has an effective date of 29 October 2018 and issue date of the 3 December 2018 and is approximately 16 million tonnes at 7.5% Zn Equivalent (including Pb and Ag credits) and 24 g/t Ag. Individual zinc and lead grades are 3.9% Zn and 3.1% Pb, with an estimated metal content of 640,000 tonnes of zinc, 510,000 tonnes of lead and 13 million troy ounces of silver.

It is the Company's opinion that all the elements included in the metal equivalents calculation have a reasonable potential to be recovered and sold. Grade tonnage curves are shown in Figure 11 below.

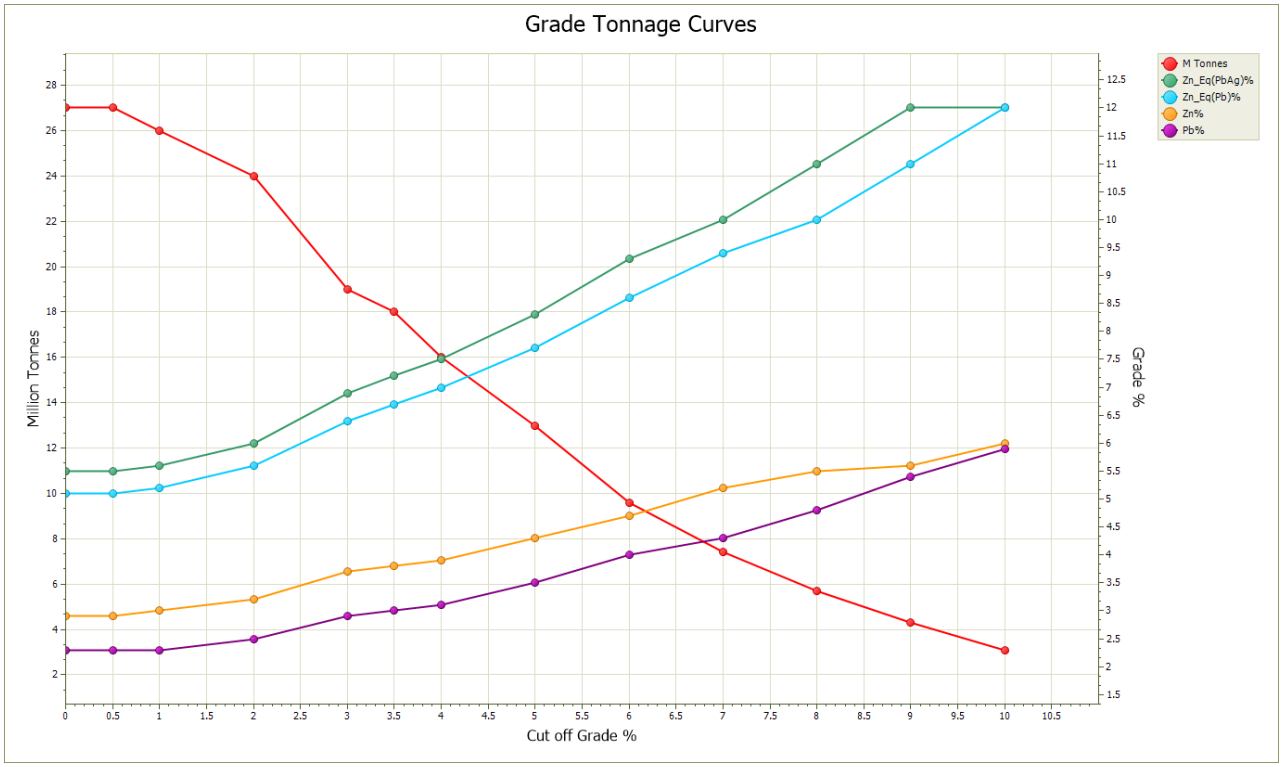

Figure 11: Grade Tonnage Curves, tonnage based on Zn equivalent with Pb and Ag credits.

Table 3: Summary of Inferred Mineral Resources for the Toral Project reported at a 4.0% Zn equivalent cut-off grade and estimated grade and tonnages at various cut off grades.

Cut-Off Zn Eq (PbAg)%	Tonnes (Millions)	Density g/cm^3	Zn Eq (Pb)%	Zn Eq (PbAg)%	Zn %	Pb %	Ag g/t	Contained Zn Tonnes (000s)	Contained Pb Tonnes (000s)	Ag Troy Oz (Millions)
Total										
6	9.6	2.8	8.6	9.3	4.7	4	30	450	390	9.1
5	13	2.8	7.7	8.3	4.3	3.5	26	570	450	11
4	**16**	**2.8**	**7**	**7.5**	**3.9**	**3.1**	**24**	**640**	**510**	**13**
3	19	2.8	6.4	6.9	3.7	2.9	22	700	550	14
Transitional Oxide Material										
4	1.5	2.4	5	5.6	2.4	2.7	27	36	42	1.3
Unweathered Fresh Rock										
4	15	2.8	7.2	7.7	4.1	3.2	24	610	470	11

Notes:

1. No mineral reserve calculations have been undertaken. Mineral resources that are not mineral reserves do not have demonstrated economic viability. Please refer to the “Cautionary Statement” at the beginning of this announcement.

2. Numbers are rounded to reflect the fact that an Estimate of Resources is being reported as stipulated by JORC 2012. Rounding of numbers may result in differences in calculated totals and averages. All tonnages are metric tonnes.
3. Zn equivalent calculations were based on 3 year trailing average price statistics obtained from the London Metal Exchange and London Bullion Market Association giving an average Zn price of US$2,500/t, Pb price of US$2,100/t and Ag price of US$17/oz. Recovery and selling factors were incorporated into the calculation of Zn Eq values. It is the Company's opinion that the elements included in the metal equivalents calculation (Zinc, Lead and Silver) have a reasonable potential to be recovered and sold.
4. Zn Eq (PbAg)% is the calculated Zn equivalent incorporating silver credits as well as lead and is the parameter used to define the cut-off grade used for reporting resources (Zn Eq (PbAg)% = Zn + Pb*0.96 + Ag*0.022).
5. Zn Eq (Pb)% is the calculated Zn equivalent using lead credits only. It is displayed here for comparison purposes (Zn Eq (Pb)% = Zn + Pb*0.96).
6. The mineral resource estimate set out above for the zinc, lead and silver mineralisation in the Toral Project area is based on a 3D geologic model and wireframe restricted block model that integrated the exploration work on the Toral Project up to 20th September 2018. The block model used uniform cell size of 50x2x50m to best suit the orientation of the mineralisation and sample spacing. The block model was rotated by 20° in plan view to best match the trend of mineralisation. Sub cells were applied to better fit the wireframe solid models and preserve accurate volume as much as possible. Cells were interpolated at the parent block scale using an Ordinary Kriged interpolation technique with a single search ellipsoid orientated to the interpreted strike, dip and pitch of mineralisation.
7. No top cutting was applied to Zn or Pb grades due to the upper detection limit of the data being 30%. High-grade outlier values for Ag were capped ('top-cut') at 200 ppm (g/t) based on the data distribution and statistics.
8. The Inferred mineral resource category for the Toral zinc-lead-silver project set out in Table 2 (at cut-off grades >4% Zn Equivalent) complies with the resource definitions as described in the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. The JORC Code, 2012 Edition. Prepared by: The Joint Ore Reserves Committee of The Australasian Institute of Mining and Metallurgy, Australian Institute of Geoscientists and Minerals Council of Australia (JORC).
9. The tonnages and grades reported at a cut-off grade of 3% Zn equivalent are below the economic cut-off grade of 4% and as such should not be considered mineral resources and they are shown here for comparison purposes only.

Mineral resources are reported in accordance with the JORC Code, 2012 edition and in compliance with the Australian Stock Exchange Chapter 5 'Additional reporting on mining and oil and gas production and exploration activities' Clause 5.8 (5.8.1 and 5.8.2). Set out in the appendix to this announcement, JORC 2012 Table 1 Sections 1-4 provides all the information that is material to the understanding of the reported mineral resources.

In September-October 2018 Europa Metals completed four reverse circulation drill holes drilled to the East of the input resource block model as reported in the Company's announcement of 31 October 2018. The results of these holes are currently not included in the input block model used in the Scoping Study. An updated geological model and mineral resource estimates are to be completed and reported in due course.

Environmental and Social Issues

Initial screening review has considered the potential impacts of the Toral Project on the landscape and land-use, hydrology (particularly to the Sil River), biodiversity, project neighbours and to local socio-economics. While some impacts are inevitable with any mining operation, no fatal flaw or red flag issues have been identified at this stage.

Land-use Designation

The project area covers the municipalities of Carracedelo, Sobrado, Borrenes, Carucedo, Villadecanes and Toral de los Vados although none of these villages are in the mining lease. Three of the Toral Project area municipalities currently designate the project ridge area as protected forest and change of land-use will therefore be part of the permitting requirements. The process to convert the land use designation to allow full mine development has been initiated by the Company and discussions with the Junta of Castilla y León have led to an agreed course of action. A specialist consultancy, MAGMA Soluciones Ambientales SL (MAGMA), has been engaged to progress the

land-use applications with the three municipalities concerned. MAGMA has a proven track record of successfully modifying municipal planning instruments for natural resources projects.

In summary, this process requires an initial review of current land use with submissions to each municipality, followed by a series of studies and reports presented at municipal, provincial and federal level. The process is estimated to take approximately 18 months. The work programme for the environmental permitting will run alongside the change of land-use applications.

By way of a precautionary note, permitting could require a long lead-time, as permitting in Castilla y León can be very protracted, especially where additional studies are stipulated. It is critical to ensure continuous engagement and discussions with the environmental authorities and local stakeholders to agree the ESIA's terms of reference and constantly update them on its progress and findings in order to pre-empt the demand for lengthy additional studies following ESIA submission.

Recommendations

Exploration Recommendations

The Scoping Study and application of grade thickness and dilution parameters, and likely mine production schedules, have identified key resource areas for follow up, thereby aiding the next phase of infill and step out drill and trench targeting and formulation of additional exploration work programmes.

In order to progress the project, systematic closed grid drilling is required to test the higher-grade areas to de-risk the Toral Project as well as to inform the model and recategorise tonnes into the Indicated resource category.

A combination of deep drilling is recommended to upgrade the model. In addition, shallower holes and trenching to define the upper extents of mineralisation and add additional tonnes in both the east and west strike extents is also recommended. In particular, there is scope to improve potential short term production opportunities by step out drilling in untested areas above the high-grade zone to extend the high-grade core towards shallower earlier accessible levels.

The future upgrade of mineral resources to a higher classification and the identification of additional resources is not guaranteed. However, it is reasonable to expect such increases as a result of the following work:

- Infill and step-out drilling in areas of low data density and drill testing of thrust repeat zones.
- Sampling and re-sampling of existing drill core to allow grade control to deposit boundaries as opposed to sampling interval control and use of actual wall rock grade values for mining shape dilution skins.
- Accompanying controlled surface trench sampling and logging on drill traverses.
- Airborne and ground based Geophysical surveys
- Improved drilling recoveries.
- Further sampling and structural analysis of the mineral deposit. In particular the collection of orientated drill core structural readings to aid confidence in the modelling of mineralised domain geometries.
- Continued and improved Quality Assurance and Quality Control.
- Continued and improved downhole orientation surveys.
- Collection of further density determination across all lithologies, material types and grade ranges within the mineralised areas and in the surrounding waste rocks.

- Utilisation and application of findings from the Rubiales technical and academic studies, in particular structural controls on mineralisation and focus of high grade zones and mineral zonation in certain potentially deleterious elements.

Mining Recommendations

- Geotechnical drilling and test work.
- Structural data capture and modelling.
- Equipment and mine development, labour and power cost quotations.
- Infill drilling to update resources to a higher classification to enable a more accurate production plan and mine design.

Processing Recommendations

- Perform metallurgical testwork on a number of samples of differing characteristics so that a flowsheet specific for Toral material can be developed.
- Undertake further SEM testwork e.g. modal proportions, deportment, grain sizes, liberation analysis (on crushed material/concentrates) and association data.
- Develop process engineering.
- Develop CAPEX and OPEX with possible trade-offs between them.
- Produce concentrate samples so that an assessment can be made of deleterious elements for smelters.

Environmental Recommendations

The work undertaken to date is considered adequate for the current stage of the Toral Project and allows a basic understanding of the environmental and social issues likely to affect the project. The additional work recommended by AMS is to advance the permitting, change of land-use designation, land acquisition, baseline studies and impact assessments required for the next stage of the project's development.

Metals price and Cut Off

The Company has reviewed the latest model along with its appointed geological consultants, AMS, and concluded that a 4% cut-off was appropriate utilising estimated mining parameters typical for similar types of projects and mineralogy, and an historical three-year trailing average for metal prices, which, although conservative, was deemed appropriate at this stage in the project's development.

Zn Price Used:	US$2,500/t	US$c/lb1.13
Pb Price Used:	US$2,100/t	US$c/lb0.95
Ag Price Used:		US$17/oz

Competent Person's statement

The Scoping Study and JORC (2012) resource estimate for Toral was prepared by Mr J.N. Hogg, MSc. MAIG Principal Geologist for AMS, Mr J. Bennett BSc (Hons). ARSM, FIMMM CEng Associate Principal Mining Engineer for AMS, Dr N. Holloway, CEng, FIMMM Associate Processing Engineer for AMS, and Dr S. Struthers CEnv, FIMMM, Associate Environmental Consultant for AMS together being independent Competent Persons within the meaning of the JORC (2012) code and qualified persons under the AIM Note for Mining and Oil & Gas Companies. The Scoping Study was aided by Mr R. J. Siddle, MSc, MAIG Senior Resource Geologist for AMS, under the guidance of the competent persons. Mr Hogg, Mr Bennett, Mr Holloway and Ms Struthers have reviewed and verified the technical information that forms the basis of, and has been used in the

preparation of, the Scoping Study and this announcement, including all analytical data, assumed and acquired technical and economic inputs, diamond drill hole logs, QA/QC data, density measurements, and sampling, diamond drilling and analytical techniques, and consent to the inclusion in this announcement of the matters based on the information, in the form and context in which it appears. Mr Hogg, Mr Bennett, Mr Holloway and Ms Struthers have also reviewed and approved the technical information in their capacities as qualified persons under the AIM Rules for Companies.

Additionally, Mr Hogg confirms that the entity is not aware of any new information or data that materially affects the information contained within the Company's previous announcements referred to herein.

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The information contained within this announcement is deemed by the Company to constitute inside information as stipulated under the Market Abuse Regulation (EU) No. 596/2014.

Glossary of technical terms:

"Ag"	silver;
"g"	grammes;
"g/t"	grammes per tonne;
"Inferred Resource"	that part of a Mineral Resource for which quantity and grade (or quality) are estimated on the basis of limited geological evidence and sampling. Geological evidence is sufficient to imply but not verify geological and grade (or quality) continuity. It is based on exploration, sampling and testing information gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drill holes;
"JORC"	the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves, as published by the Joint Ore Reserves Committee of The Australasian Institute of Mining and Metallurgy, Australian Institute of Geoscientists and Minerals Council of Australia;
"JORC (2012)"	the 2012 edition of the JORC code;

“LHD”	Load, Haul, Dump
"m"	metre;
“masl”	metres above sea level
"Mineral Resource"	a concentration or occurrence of material of economic interest in or on the earth's crust in such form and quantity that there are reasonable and realistic prospects for eventual economic extraction. The location, quantity, grade, continuity, and other geological characteristics of a Mineral Resource are known, estimated from specific geological evidence and knowledge, or interpreted from a well-constrained and portrayed geological model;
"Mt"	million tonnes;
"oz"	troy ounce;
"Pb"	lead;
“SEM”	Scanning electron microscope
"QA/QC"	quality assurance/quality control;
"Zn"	zinc.

EUROPA METALS

Appendix: Table 1 Appendix 5A ASX Listing Rules (JORC 2012)

Section 1 Sampling Techniques and Data

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

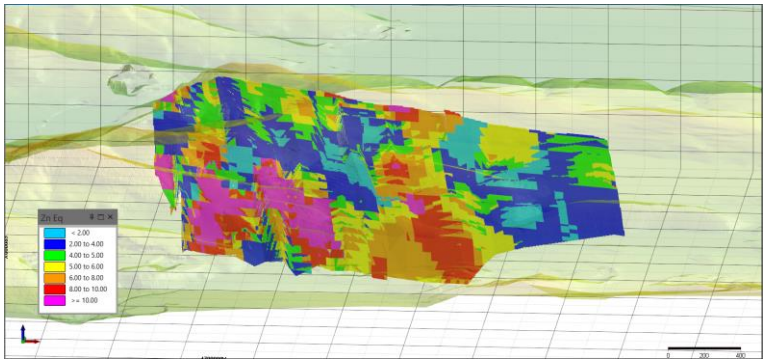
Criteria	JORC Code explanation	Commentary related to the Toral Project
Sampling techniques	• Nature and quality of sampling (e.g. cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling. • Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used. • Aspects of the determination of mineralisation that are Material to the Public Report. • In cases where 'industry standard' work has been done this would be relatively simple (e.g. 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised 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 (e.g. submarine nodules) may warrant disclosure of detailed information.	Historic and recent diamond drill core and underground cut channel sampling. Three main phases of exploration drilling and sampling: 1972 - 1984 Peñarroya – Adaro. Diamond drill core method was used to obtain samples for geological logging and sampling. Geological and analytical data is recorded on hardcopy. Selective sampling method was employed around areas of interest. Sampling intervals measure approx. 1m, half core sent for analysis, with half core retained for reference. Exact details on core processing, sampling techniques and analytical methods are unclear, however subsequent explorers Lundin Mining sent the majority of Peñarroya core pulp reject samples to ALS Chemex for multi element re-analysis by ICP. 2006 - 2008 Lundin Mining. Diamond drill core method was used. Core logging completed on paper. Selective sampling method was employed around areas of interest. Sampling intervals measure approx. 1m, half core sent for analysis, with half core retained for reference. Samples typically 1m half core, with samples prepared at the then Lundin Laboratory in Suecia, then shipped to ALS Chemex Vancouver for multi-element analysis by ICP. Half core samples reduced to -400 microns and 100g sub-sample taken for analysis. Multi-element re-analysis of available Peñarroya ddh pulp reject samples completed at ALS Chemex Vancouver using ICP. 2016 - 2017 Europa Metals. Diamond drill core and underground cut channel sampling methods used to obtain samples for geological logging and sampling. Geological and analytical data is recorded on hardcopy. Selective sampling method was employed around areas of interest. Sampling intervals measure approx. 1m, half core sent for analysis, with half core retained for reference. Samples sent to ALS Seville for preparation and multi-element analysis by ICP. Half core samples reduced to -400 microns and 100 g sub-sample taken for analysis.

Criteria	JORC Code explanation	Commentary related to the Toral Project
Drilling techniques	• Drill type (e.g. core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (e.g. core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc).	A total of 92 diamond drill holes (Inc. wedges) for 45,000 metres, and 19 underground channels for 18.75 metres were used as the input database for geological modelling and resource estimation. Drill core diameter was PQ, HQ and NQ depending upon depth. Tube type is unknown for Peñarroya drilling, triple tube method was used for Lundin and Europa Metals campaigns. No orientation has been done on drill core. Sept-Oct 2018 Europa Metals. Four reverse circulation drill holes were drilled to the East of the input resource block model as reported in the Company's announcement of 31 October 2018. The results of these holes are currently not included in the Study. An updated geological model and mineral resource estimates to be completed and reported in due course.
Drill sample recovery	• Method of recording and assessing core and chip sample recoveries and results assessed. • Measures taken to maximise sample recovery and ensure representative nature of the samples. • Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.	Recovery data was recorded for selected intervals in 23 drillholes (11 Peñarroya, 6 Lundin and 6 Europa Metals). A total of 332 core recovery measurements exist in the database with average recovery of 83%. 109 core recovery measurements occur within the interpreted mineralised zone. Core recovery was measured over lengths often corresponding to sample length. Recoveries average 80% within the mineralised zone, ranging from 100% down to 19% within areas of broken ground conditions, intense fracturing and alteration. Statistical assessment suggests a possible slight bias exists between recovery and grades, with higher recovery returning slightly higher average grades. However, due to limited samples findings are currently inconclusive and additional recovery data and investigation is required to draw conclusions.
Logging	• Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies. • Whether logging is qualitative or quantitative in nature. Core (or costean,	Selected intervals representing areas of interest were logged in the Peñarroya drill holes. All Lundin and Europa Metals holes were logged in their entirety. Core logging was recorded on paper logs, using a combination of printed graphic log templates (Peñarroya, Lundin), and plain paper (Europa Metals). DH lithology, alteration, mineralisation and structural observations were recorded by variable interval based on characteristical similarities and change boundaries.

Criteria	JORC Code explanation	Commentary related to the Toral Project
	channel, etc) photography. • The total length and percentage of the relevant intersections logged.	Summary interval information was input to Excel, comprising single code field and codes to describe logged lithology, alteration, mineralisation and major structure for the interval. Graphic and schematic logs were produced for all drilling. Lundin and Europa Metals core was routinely photographed. Drill core logging is considered satisfactory for the level of study and resource class.
Sub-sampling techniques and sample preparation	• If core, whether cut or sawn and whether quarter, half or all core taken. • If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry. • For all sample types, the nature, quality and appropriateness of the sample preparation technique. • Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples. • Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results for field duplicate/second-half sampling. • Whether sample sizes are appropriate to the grain size of the material being sampled.	The sub-sampling techniques and sample preparation details are not known for the Peñarroya drill core. Lundin and Europa Metals core was cut by core saw and half core submitted for analysis. Underground channels were cut by angle grinder/circular saw. A channel approximately 7 cm wide and 5 cm deep to obtain 2-3 kg sample. Sample collection, sample size, preparation and analysis are considered appropriate for the mineralogy and deposit type. Samples are considered representative of the in-situ material collected. QAQC sample insertion procedures were not employed during the historical Peñarroya drill campaigns. Lundin Mining completed limited quarter core field duplicate insertion and selected pulp re-assay by external lab. Europa Metals conducted a QC program of inserting quarter core field duplicates, coarse blank and pulp blank material, external standards, selected pulp repeats and submission of pulp rejects for umpire lab analysis. ALS internal QC exists for Peñarroya re-analysis, Lundin and Europa Metals sample batches.
Quality of assay data and laboratory tests	• The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total. • For geophysical tools, spectrometers,	Historical Peñarroya assaying and laboratory procedures are unknown. Commercial laboratories ALS Chemex Vancouver and ALS Seville (ISO9001:2008) were used for Lundin and Europa Metals drill core respectively and Europa Metals underground channel sample analysis.

Criteria	JORC Code explanation	Commentary related to the Toral Project
	handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc. • Nature of quality control procedures adopted (e.g. standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e. lack of bias) and precision have been established.	Multi-element analysis, including Pb, Zn, Cu, Ag by ICP-MS were completed on all samples. Over limits samples were re-analysed using ore grade methods of determination. Sample analytical techniques are considered in line with industry standard for this style of mineralisation. QAQC sample insertion procedures were not employed during the historical Peñarroya drill campaigns. However, Lundin re-analysis of Peñarroya drill core pulp rejects does allow for comparison of original and pulp duplicate analysis results for verification purposes. Lundin Mining completed limited quarter core field duplicate insertion and pulp reject re-analysis. No external standards. Europa Metals conducted a QC programme of inserting quarter core field duplicates, coarse blank and pulp blank material, standards, selection of pulp repeats and submission of pulp rejects for umpire lab re-analysis. ALS Chemex and ALS Seville internal QC exists for the Peñarroya Lundin re-analysis, Lundin core and Europa Metals core and channel sample batches. No significant issues or fatal flaws were identified from the assessment of QA data. The nature and quantity of QAQC data, procedures employed, level of accuracy and precision are considered acceptable for the assigned resource classification. The quality of assay data and laboratory tests is acceptable for the resource classification for this deposit. No geophysical tools, spectrometers or handheld XRF instruments were used in the exploration and resource work.
Verification of sampling and assaying	• The verification of significant intersections by either independent or alternative company personnel. • The use of twinned holes. • Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.	Paper recorded drill hole logging data is transferred to Excel, imported in to MapInfo for viewing and imported to Micromine 3D geological modelling software for validation. DGPS collar and survey excel data, and lab analytical data transferred from lab.csv, to Excel and imported to Micromine 3D geological modelling software.

Criteria	JORC Code explanation	Commentary related to the Toral Project
	• Discuss any adjustment to assay data.	Geological data from gallery is observed and reported by geologists and mining engineers. All analytical data generated from Lundin re-analysis and Lundin core samples, Europa Metals core and channel samples for use as input to estimation have been verified by cross reference against lab assay certificates, re-import and re-building of the project analytical database. No adjustment to the analytical data was considered necessary, other than conversion to zinc equivalents for reporting purposes, following industry best practice. Raw analytical data remained unchanged.
Location of data points	• Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation. • Specification of the grid system used. • Quality and adequacy of topographic control.	Lundin and Europa Metals drill collars were surveyed using a Geomax 35 high-precision DGPS device Accuracy +/-3cm. Downhole survey measurements taken using Reflex Maxibore downhole survey tool. Peñarroya drill hole collar locations were measured off plans and sections, located on the ground and picked up using Geomax 35 high-precision DGPS device. Accuracy +/-5 m. Peñarroya drill hole dip and azimuth measured from historical plans, cross sections and longitudinal section. Accuracy +/-5 m. Old workings were surveyed using Lieca Disto tmx310 survey device. Co-ordinate grid system used is European Terrestrial Reference System 1989 UTM Zone 29. Topographic DTM taken from 5 m resolution Lidar data MDT05-Lidar, from government mapping and survey association Plan Nacional de Ortofotografía Aérea (PNOA).

Criteria	JORC Code explanation	Commentary related to the Toral Project
Data spacing and distribution	• Data spacing for reporting of Exploration Results. • Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied. • Whether sample compositing has been applied.	Drill and UG channel sample data spacing across the current resource area ranges from approximately 50-100mx50-100m centres within the most densely tested area towards the NW, stepping out to approximately 200mx200m within the mid-section, and 100-200x500m in the SE. Toral ZnEq block model and sample points are set out below. The distribution of drillholes, UG channel sampling, supported by surface and underground mapping is sufficient to establish the degree of geological and grade continuity appropriate for JORC (2012) Inferred classification of resources. Intervals were not composited at the sampling stage. Grade compositing was done for domain interpretation and modelling, and 2 m length compositing done for grade interpolation. 
Orientation of data in relation to geological structure	• Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type. • If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.	Drilling is angled to intercept mineralised structures at high angle, as close to perpendicular to dip and strike as practicable. No sample bias is introduced by drilling orientation.

Criteria	JORC Code explanation	Commentary related to the Toral Project
Sample security	• The measures taken to ensure sample security.	Historical Peñarroya sample security protocols are not available. Lundin/Europa Metals drill core is transported from site to logging facility in securely covered core boxes by the Lundin/Europa Metals geologists. Core logged and sampled in secure facility. Samples are bagged in plastic bags and labelled with individual sample numbers, sample name and sample location. Each bag is sealed to avoid loss and contamination. Plastic bags are placed in dry weave bags. Samples are delivered to laboratory by courier in secured boxes.
Audits or reviews	• The results of any audits or reviews of sampling techniques and data.	Competent Person's review and discussion of sampling techniques and data took place prior to and during the consultant's site visit between 20-22November 2017. Findings were satisfactory and considered appropriate for the JORC (2012) resource classification.

Section 2 Reporting of Exploration Results

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

Criteria	JORC Code explanation	Commentary
Mineral tenement and land tenure status	• Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings. • The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.	Toral exploration permit number 15.199 (also referred to as Permiso de Investigacion), is located approximately 400 km northwest of Madrid, within the Province of León, Autonomous Community of Castile and León. Licence 15.199 covers an area of 20.29 km^2. Exploration licence 15.199 is owned by GoldQuest Iberica, S.L., a wholly owned subsidiary of Europa Metals Limited. The licence was renewed on 14 November 2017 for a period of 3 years. The current licence period extends to November 2020

Criteria	JORC Code explanation	Commentary
Exploration done by other parties	• Acknowledgment and appraisal of exploration by other parties.	1972-1984 – Peñarroya-Adaro. 55 drill holes, 36 wedge drill holes. 1992-1995 – Geominera. Data re-evaluation. 2005-2008 – Lundin Mining. 7 drill holes. 2009-2011 – GoldQuest Mining. Soil and rock geochemistry. Historic gallery mapping. Data evaluation. NI43-101 Mineral Resource Estimate 2012-2015 – Portex Mining Corporation. Geological mapping. Data re-evaluation. 2015-2016 – GoldQuest Iberica S.L. Soil and rock geochemistry. Geological mapping. 2016-2017 – GoldQuest Iberica S.L. (Europa Metals Limited). 6 drill holes. Historic gallery mapping and sampling. Data re-evaluation and interpretation.
Geology	• Deposit type, geological setting and style of mineralisation.	The Toral project is located in the Southwestern part of the regional West Asturian Leonese Zone (WALZ), a major tectono-stratigraphic unit of the Hercynian Orogeny. The mineralisation at Toral is considered as structurally controlled carbonate hosted Pb-Zn type. Shear and thrust fault-controlled mineralisation within favourable carbonate lithology and favourable contrasting contacts between carbonates and shales. Styles of mineralisation are boudinage drusy quartz vein, replacement breccia, disseminated clots associated with silica, carbonate and chlorite alteration. Main metallic minerals are Sphalerite, Galena, Pyrite, Chalcopyrite and silver.

Criteria	JORC Code explanation	Commentary
Drill hole Information	• A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes: ○ easting and northing of the drill hole collar ○ elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar ○ dip and azimuth of the hole ○ down hole length and interception depth ○ hole length. • If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.	Drilling: Number of drillholes used: 92 Collar East: 679962mE - 684702mE Collar North: 4708653mN - 4710598mN Collar RL: 410mRL - 753mRL Azimuth: 007° - 345º Dip: -87° - -40° Length: 82.3m – 1,285.3m Interception depth: 578mRL – -405mRL UG Channels: Number of channels: 19 Collar East: 680917mE – 682607mE Collar North: 4709161mN – 4709996mN Collar RL: 447mRL – 693mRL Azimuth: 010° - 313° Dip: -24° - 19° Length: 0.25m – 4.25m Cut-off date for input data to geological modelling and block estimation was September 10th 2018

Criteria	JORC Code explanation	Commentary
Data aggregation methods	• In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (e.g. cutting of high grades) and cut-off grades are usually Material and should be stated. • Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail. • The assumptions used for any reporting of metal equivalent values should be clearly stated.	No top cuts were applied to the Zn and Pb data. However, Lundin and Europa Metals samples were limited to analytical method upper detection limits of 30% for Zn, Pb A top cut of 200 ppm was applied to Ag assay data. Data aggregation or Grade Compositing rules for the reporting of exploration drill and channel significant results were minimum width 1m, minimum average grade 0.5% ZnEq, maximum allowable internal waste of 2m. Zn equivalent calculations were based on 3 year trailing average price statistics obtained from the London Metal Exchange and London Bullion Market Association giving an average Zn price of US$2,500/t, Pb price of US$2,100/t and Ag price of US$17/oz. Recovery and selling factors were incorporated into the calculation of Zn Eq values. It is the Company's opinion that all the elements included in the metal equivalents calculation (Zinc, Lead and Silver) have a reasonable potential to be recovered and sold.
Relationship between mineralisation widths and intercept lengths	• These relationships are particularly important in the reporting of Exploration Results. • If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported. • If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (e.g. 'down hole length, true width not known').	Mineralisation is interpreted as sub-vertical to steeply dipping to the NE. Angled drilling is sub-perpendicular to +/- 20º oblique to mineralisation. True thickness of mineralisation ranges from approximately 90%-60% downhole interval length.
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.	Appropriate scaled diagrams are included within the AMS Toral JORC (2012) Resource Statement and Technical Report.

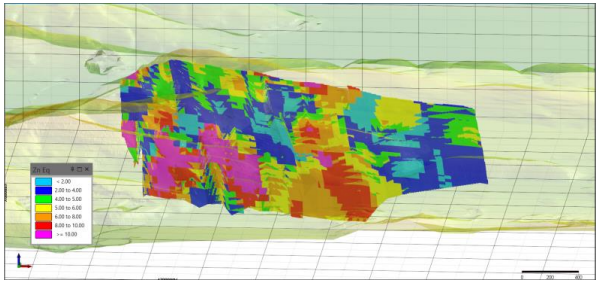
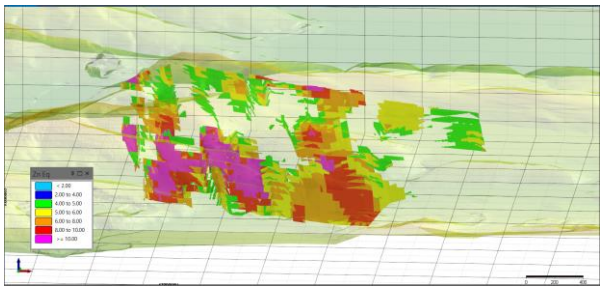
Criteria	JORC Code explanation	Commentary
Balanced reporting	• Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.	All available exploration data for the Toral deposit area has been collected and reported. Representative data from all drillings have been reported.
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.	No geophysical works have been completed. Geological mapping and solid geology map generation completed. Structural interpretation and 3D modelling completed. Soil geochemical surveys demonstrate strong coherent Zn in soil anomalism coincident with interpreted controlling structures. No geotechnical, metallurgical or bulk sample test work completed to date.
Further work	• The nature and scale of planned further work (e.g. tests for lateral extensions or depth extensions or large-scale step-out drilling). • Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.	Surface drilling and trenching works testing open strike extent to the SE and infill drilling within current resource limits to increase confidence and resource class. Underground cut-channel sampling and mapping. Systematic bulk density measurement work. Preliminary metallurgical testwork.

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	• Measures taken to ensure that data has not been corrupted by, for example, transcription or keying errors, between its initial collection and its use	The databases (geological and analytical) are maintained by the geologist.

Criteria	JORC Code explanation	Commentary
	for Mineral Resource estimation purposes. • Data validation procedures used.	The database for use as input to mineral resource modelling and estimation has been validated and verified by AMS and the Competent Person. Micromine 3D geological modelling and estimation software used for import, validation and QAQC verification assessment. Data checks include checks for overlapping and missing intervals, dh trace errors, missing survey data, litho and collars.
Site visits	• Comment on any site visits undertaken by the Competent Person and the outcome of those visits. • If no site visits have been undertaken indicate why this is the case.	Competent Person for structurally controlled carbonate hosted Pb-Zn resource estimation is Mr. James Hogg who has a Masters Degree of Science in Mineral Exploration and is a member of the Australian Institute of Geoscientists. A site visit was completed between 20- 22 November 2017.
Geological interpretation	• Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit. • Nature of the data used and of any assumptions made. • The effect, if any, of alternative interpretations on Mineral Resource estimation. • The use of geology in guiding and controlling Mineral Resource estimation. • The factors affecting continuity both of grade and geology.	Based upon the level of available information, geological and deposit complexity, interpretation of the main lithological boundaries and controls to mineralisation are considered satisfactory and appropriate for the assigned resource class. Drillhole lithological and analytical information, prospect scale surface geological mapping, underground mapping and sampling, location of underground workings were used in geological interpretation. Alternative interpretations infer potential thrust repeats and potential for additional parallel mineralised zones. However, at the level of information this interpretation remains unsupported by drill data and conceptual in nature. Geological model was used to guide the interpretation and continuity of Zn-Pb mineralised domains. Post mineralisation transfer faults are interpreted to affect continuity by minor offset.
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.	Mineralisation is encountered at surface and based on current testing, extends to approximately 1,100 m below the surface. Mineralisation is currently tested across a 3,300 m strike length, the orientation of mineralisation zone is approximately 110 degrees, averaging approximately 3 m in thickness.

Criteria	JORC Code explanation	Commentary
Estimation and modelling techniques	• The nature and appropriateness of the estimation technique(s) applied and key assumptions, including treatment of extreme grade values, domaining, interpolation parameters and maximum distance of extrapolation from data points. If a computer assisted estimation method was chosen include a description of computer software and parameters used. • The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data. • The assumptions made regarding recovery of by-products. • Estimation of deleterious elements or other non-grade variables of economic significance (e.g. sulphur for acid mine drainage characterisation). • In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed. • Any assumptions behind modelling of selective mining units. • Any assumptions about correlation between variables. • Description of how the geological interpretation was used to control the resource estimates. • Discussion of basis for using or not using grade cutting or capping. • The process of validation, the checking process used, the comparison of model data to drill hole data, and use of reconciliation data if available.	Wireframe solid models were created for each domain based on a mineralisation threshold of approximately 0.2% for Zn and Pb (approximately 0.4% Zn+Pb). Analysis of Zn and Pb grades in cross section and in scatter plots showed a strong relationship and no requirement to model Zn and Pb separately was identified. Ag showed a strong correlation with Pb and was estimated within the Zn/Pb mineralised domain. Interpretation of the mineralised domains were guided by geological interpretation of the deposit incorporating structural and lithological boundaries. Extrapolation of the Zn-Pb mineralised domain equals approximately 50m along strike in the NW direction, approximately 50-80m below the deepest sample in the NW and central zones, and approximately 200m below the deepest sample in the SE zone. Mineralisation is extrapolated approximately 60m along strike to the SE. Extents of extrapolation are considered appropriate for the level of information, deposit type, strike and depth extents tested, observed and geostatistical continuity and the assigned resource class of Inferred. Images below show the extrapolated zone of mineral domain block model.   All samples contained within the mineralised wireframe were composited to a standard length for geostatistical analysis and interpolation. Variography was performed on the assay data within the primary mineralised wireframe to generate a series of directional semi-variograms for Zn, Pb and Ag. These variograms were used in the Ordinary Kriging process where Zn, Pb and Ag were interpolated and extrapolated using the corresponding variograms on a domain by domain basis. A single pass search was applied to minimise

Criteria	JORC Code explanation	Commentary
		conditional bias, the number of input data in each block estimate were restricted to prevent over smoothing of the estimates. The block model used uniform cell size of 50x2x50 m to best suit the orientation of the mineralisation and sample spacing. The block model was rotated by 20° in plan view to best match the trend of mineralisation. Sub cells were applied to better fit the wireframe solid models and preserve accurate volume as much as possible. Cells were interpolated at the parent block scale using an Ordinary Kriged interpolation technique with a single search ellipsoid orientated to the interpreted strike, dip and pitch of mineralisation. No top cutting was applied to Zn or Pb grades due to the upper detection limit of the data being 30%. High-grade outlier values for Ag were capped ('top-cut') at 200 ppm (g/t) based on the data distribution and statistics. The current resource completed by AMS on the Toral project compares well with the historic 2011 NI43-101 reported resource which stated resources at 4% cut off of 18Mt @ 8.4% (Pb+Zn), 27g/t Ag. An AMS audit of the historic resource has identified a number of errors and issues in regard to input data, estimation methodology, assumptions and reporting of metal equivalents, and considers the historic resource inaccurate and unreliable. The data was continually validated throughout drilling and at the resource stage. Data was validated both visually and in Micromine. No significant errors were detected and the data set is considered robust and compliant with JORC 2012 reporting standards. A comparison between the volume and tonnage of the block model and the volume and tonnage of the wireframe which represents all mineral domains. The volumes of the wireframe and block model agree within acceptable limits.
Moisture	• Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.	Tonnages are estimated on a dry basis.
Cut-off parameters	• The basis of the adopted cut-off grade(s) or quality parameters applied.	Zn equivalent calculations were based on 3 year trailing average price statistics obtained from the London Metal Exchange and London Bullion Market Association giving an average Zn price of US$2,500/t, Pb price of US$2,100/t and Ag price of US$17/oz. Recovery and selling factors were incorporated into the calculation of Zn Eq values. It is the Company's opinion that all the elements included in the metal equivalents calculation (Zinc, Lead and Silver) have a reasonable potential to be recovered and sold.

<table>
<tr><th>Criteria</th><th>JORC Code explanation</th><th>Commentary</th></tr>
<tr><td></td><td></td><td>Zn Eq (PbAg)% is the calculated Zn equivalent incorporating silver credits as well as lead and is the parameter used to define the cut-off grade used for reporting resources (Zn Eq (PbAg)% = Zn + Pb*0.96 + Ag*0.022).

Zn Eq (Pb)% is the calculated Zn equivalent using lead credits and does not include silver credits. It is displayed here for comparison purposes (Zn Eq (Pb)% = Zn + Pb*0.96).</td></tr>
<tr><td>Mining factors or assumptions</td><td>• 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.</td><td>Assumed mining methods are based upon a review of methods of extraction, cost and performance on similar type deposits.

Summary of mining and processing costs used in determination of economic cut off. Assumed 90% sub level open stoping and 10% shrinkage mining techniques.
<table>
<tr><th>Description</th><th>$/t</th><th>Weighting</th><th>Weighted Cost / t</th></tr>
<tr><td>Mining - Sub-level OS</td><td>25</td><td>0.9</td><td>22.5</td></tr>
<tr><td>Mining post fill</td><td>8</td><td>1</td><td>8</td></tr>
<tr><td>Mining - shrinkage</td><td>80</td><td>0.1</td><td>8</td></tr>
<tr><td>Weighted average mining cost</td><td></td><td></td><td>38.5</td></tr>
<tr><td>Flotation 2 products</td><td>17</td><td>1</td><td>17</td></tr>
<tr><td>G&A</td><td>10</td><td>1</td><td>10</td></tr>
<tr><td>Total per tonne milled</td><td></td><td></td><td>65.5</td></tr>
</table></td></tr>
<tr><td>Metallurgical factors or assumptions</td><td>• 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</td><td>Assumed processing methods are based upon a review of methods of extraction, cost and performance of similar type deposits.

Summary of recovery and selling factors used in the determination of economic cut off and equivalents. Assumed 90% sub level open stoping and 10% shrinkage mining techniques with 90% and 95% mining recoveries respectively. Discounted factor for selling concentrate product applied to metal prices. Metal Recoveries and Concentrate Selling Factors are taken into account in Zn Eq calculation.</td></tr>
</table>

Criteria	JORC Code explanation	Commentary
	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.	

Metal	Metal price US$	Zn % Equivalent Conversion Factor	Mining Recovery Factor (MRECF)	Process Recovery Factor (PRECF)	Conc Selling Factor (CONCF)	Metal Contribution Factor
Zn	2500 /t	1	0.905	0.93	0.85	0.55
Pb	2100 /t	0.96 (x % Pb)	0.905	0.89	0.92	0.38
Ag	17 /Oz	0.022 (x g/t Ag)	0.905	0.80	0.95	0.07
Zn Eq Weighted			**0.905**	**0.905**	**0.884**	

Environmen-tal factors or assumptions	• Assumptions made regarding possible waste and process residue disposal options. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider the potential environmental impacts of the mining and processing operation. While at this stage the determination of potential environmental impacts, particularly for a greenfields project, may not always be well advanced, the status of early consideration of these potential environmental impacts should be reported. Where these aspects have not been considered this should be reported with an explanation of the environmental assumptions made.	Tailings disposal in Spain is highly regulated and a sensitive environmental issue. The proposal at Toral is to maximise utilisation of tailings as underground backfill, as required for the mining method; and ensure minimum impact from surface storage of excess tailings. Initial studies favour reducing tailings water content and placement of thickened or filtered 'dry' tailings to nearby valleys and/or old quarry excavations. Sufficient capacity has been identified for LOM production and water management will include surface water diversion channels and collection of any seepage/run-off for recycling to the plant in a closed circuit system. At this stage it is assumed that tailings storage will be lined and perimeter monitoring bores will provide detection and collection capacity for returning any leakage to the plant. The Scoping Study considered several options for the location of mine waste facilities, including valley disposal on the western end of the southern slope of the Toral ridge, that are not within sightlines from Las Médulas; several dis-used limestone quarries, including 2 to the west of Toral on the other side of the Sil River; highway and rail line; and some smaller valleys on the northern slope of the ridge.
Bulk density	• Whether assumed or determined. If assumed, the basis for the assumptions. If determined, the method used, whether wet or dry, the frequency of the measurements, the nature, size and	The bulk density was calculated using the Archimedes method weighting the samples in air and water using a Kern precision balance.

Criteria	JORC Code explanation	Commentary
	representativeness of the samples. • The bulk density for bulk material must have been measured by methods that adequately account for void spaces (vugs, porosity, etc), moisture and differences between rock and alteration zones within the deposit. • Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.	The original resource database contained 190 bulk density measurements. As part of the re-logging programme, an additional 1,002 measurements were recorded throughout the deposit for a total of 1,192 measurements. 105 measurements occurred within the mineralised wireframe. The mean of all bulk density readings within the mineralised zone wireframe is 2.75 g/cm3 compared with the previous mean for all readings within the mineralised domain of 2.46 g/cm3 thereby representing a significant increase in the mean density of the mineralised domain. The mean for the mineralised domain oxide/transitional zone is 2.4 g/cm3 and the mean for mineralised domain fresh material is 2.8 g/cm3.
Classification	• The basis for the classification of the Mineral Resources into varying confidence categories. • Whether appropriate account has been taken of all relevant factors (i.e. relative confidence in tonnage/grade estimations, reliability of input data, confidence in continuity of geology and metal values, quality, quantity and distribution of the data). • Whether the result appropriately reflects the Competent Person's view of the deposit.	The Inferred mineral resource category for the Toral zinc-lead-silver project (at cut-off grades >4% Zn Equivalent) comply with the resource definitions as described in Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. The JORC Code, 2012 Edition. Prepared by: The Joint Ore Reserves Committee of The Australasian Institute of Mining and Metallurgy, Australian Institute of Geoscientists and Minerals Council of Australia (JORC). The result reflects the quality and quantity of data, geostatistical analysis of correlation and relationship between mineralised samples (semi-variography) and the Competent Person's view of the deposit. The semi-variography reflects the sample density. Effective date for the resource block model used as input to the Scoping Study is 20 September 2018.
Audits or reviews	• The results of any audits or reviews of Mineral Resource estimates.	There has been one historical resource estimate performed on the deposit, completed in 2013 and reported in compliance with NI43-101. A review of the NI43-101 report and available models has raised some concerns on the validity of input data used, modelling and estimation methodologies and resulting reliability of reported resources. The AMS 2018 resource report has not been audited.
Discussion of relative	• Where appropriate a statement of the relative accuracy and confidence level in the Mineral Resource estimate using	It is the Competent Person's opinion that the resource model and estimations are accurate given the quantity and quality of data and reported in accordance with JORC 2012 guidelines.

Criteria	JORC Code explanation	Commentary
accuracy/ confidence	an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the resource within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors that could affect the relative accuracy and confidence of the estimate. • The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used. • These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.	The level of confidence is consistent with the level of Inferred categorised mineral resource. There were sufficient statistical and geostatistical procedures to quantify the accuracy of the mineral resource. There are no historical production records from the deposit.

Section 4 Estimation and Reporting of Ore Reserves

(Criteria listed in section 1, and where relevant in sections 2 and 3, also apply to this section.)

Criteria	JORC Code explanation	Commentary
Mineral Resource estimate for conversion to Ore Reserves	• Description of the Mineral Resource estimate used as a basis for the conversion to an Ore Reserve. • Clear statement as to whether the Mineral Resources are reported additional to, or inclusive of, the Ore Reserves.	• Mineral resource is based on ordinary kriging estimation method. • This scoping study / mining study is not reporting any mining reserves

Criteria	JORC Code explanation	Commentary
Site visits	• Comment on any site visits undertaken by the Competent Person and the outcome of those visits. • If no site visits have been undertaken indicate why this is the case.	• Numerous site visits have been undertaken by the JORC Resource Competent Persons.
Study status	• The type and level of study undertaken to enable Mineral Resources to be converted to Ore Reserves. • The Code requires that a study to at least Pre-Feasibility Study level has been undertaken to convert Mineral Resources to Ore Reserves. Such studies will have been carried out and will have determined a mine plan that is technically achievable and economically viable, and that material Modifying Factors have been considered.	• This scoping study / mining study is not reporting any mining reserves • This is Scoping Study level report and as such, there has been no conversion from Mineral Resources to Ore Reserves.
Cut-off parameters	• The basis of the cut-off grade(s) or quality parameters applied.	• Cut-off grades are based on comparable European UG mining costs & a long term zinc and lead prices.
Mining factors or assumptions	• The method and assumptions used as reported in the Pre-Feasibility or Feasibility Study to convert the Mineral Resource to an Ore Reserve (i.e. either by application of appropriate factors by optimisation or by preliminary or detailed design). • The choice, nature and appropriateness of the selected mining method(s) and other mining parameters including associated design issues such as pre-strip, access, etc. • The assumptions made regarding geotechnical parameters (eg pit slopes, stope sizes, etc), grade control and pre-production drilling.	• This scoping study / mining study is not reporting any mining reserves. • The UG mining method and assumptions are based on approximate mine designs of analogous deposits. • Mechanised cut and fill (MCAF) is commonly used in narrow, steeply dipping and irregular ore bodies. • Standard geotechnical conditions have been applied for the Toral ore body. • Pit slope optimisation not applicable • Mining dilution = 5% or variable residual thickness factor where less than 2.5m thick

Criteria	JORC Code explanation	Commentary
	• The major assumptions made and Mineral Resource model used for pit and stope optimisation (if appropriate). • The mining dilution factors used. • The mining recovery factors used. • Any minimum mining widths used. • The manner in which Inferred Mineral Resources are utilised in mining studies and the sensitivity of the outcome to their inclusion. • The infrastructure requirements of the selected mining methods.	• Mining recovery = 93% • Minimum mining width = 2.5m • 100% of the resource is inferred. • A decline and associated ventilation and dewatering infrastructure is required before the UG level accesses can be constructed, which are required for MCAFP mining methods.
Metallurgical factors or assumptions	• The metallurgical process proposed and the appropriateness of that process to the style of mineralisation. • Whether the metallurgical process is well-tested technology or novel in nature. • The nature, amount and representativeness of metallurgical test work undertaken, the nature of the metallurgical domaining applied and the corresponding metallurgical recovery factors applied. • Any assumptions or allowances made for deleterious elements. • The existence of any bulk sample or pilot scale test work and the degree to which such samples are considered representative of the orebody as a whole. • For minerals that are defined by a specification, has the ore reserve estimation been based on the appropriate mineralogy to meet the specifications?	• Crush, grind & flotation is the proposed metallurgical process, this is an appropriate process for a base metals project. • The process has been successfully applied for many decades across the world. • No metallurgical test work has been completed but analogies have been drawn from the Rubiales mine which is extremely similar in terms of host geology and mineralisation, supported by recent the results of polished thin section petrography. • No deleterious elements have been identified at this stage. However, the zinc concentrate produced at Rubiales was noted to contain 0.12% cadmium and 0.16% mercury so is likely to need appropriate blending at smelters. • No bulk sample or pilot scale test work has been completed. • This scoping study / mining study is not reporting any mining reserves

Criteria	JORC Code explanation	Commentary
Environmental	• The status of studies of potential environmental impacts of the mining and processing operation. Details of waste rock characterisation and the consideration of potential sites, status of design options considered and, where applicable, the status of approvals for process residue storage and waste dumps should be reported.	• No environmental base line studies have been performed to date. • Significant desktop studies have not identified any hinderances to permitting of the project. • Initial mine waste and tailings disposal options have taken visual, geochemistry, hydrology and geotechnical considerations into account. No characterisation studies have been completed.
Infrastructure	• The existence of appropriate infrastructure: availability of land for plant development, power, water, transportation (particularly for bulk commodities), labour, accommodation; or the ease with which the infrastructure can be provided or accessed.	• Infrastructure to suit a 450 Ktpa operation to be installed • This will consist of a mine office, change house for employees, a warehouse for mine consumables including drilling accessories and equipment spare parts, and a repair shop for mine mobile equipment, although this may be re-located underground. • There will also be a mine electrical substation for the underground power reticulation • Other site works will include site roads, not including the mine haulage roads. • There will also be a number of vehicles, including a fire tender and ambulance, plus personnel vehicles and tailings loader.
Costs	• The derivation of, or assumptions made, regarding projected capital costs in the study. • The methodology used to estimate operating costs. • Allowances made for the content of deleterious elements. • The source of exchange rates used in the study. • Derivation of transportation charges. • The basis for forecasting or source of treatment and refining charges, penalties for failure to meet specification, etc. • The allowances made for royalties payable, both Government and private.	• Capital costs are based on detailed studies by AMS on other analogous mining operations. • Operating costs based on other analogous mining operations. • Using costs from Infomine 2018. • No deleterious have been identified to date. However, the zinc concentrate produced at Rubiales was noted to contain 0.12% cadmium and 0.16% mercury so is likely to need appropriate blending at smelters. • The long term average rate of US$: € of $1.133 has been applied. • Treatment & Refining charges are based on current data publicly available for lead concentrate. • Allowances have been made for government land royalties at a cost of €3,240 pa.. There is also a further 1.5% NSR payable to Lundin AB which has not been included.
Revenue factors	• The derivation of, or assumptions made regarding revenue factors	• A head grade of 7.3% ZnEq* (Pb & Ag) (inc. mining loses and dilution) has been applied.

Criteria	JORC Code explanation	Commentary
	including head grade, metal or commodity price(s) exchange rates, transportation and treatment charges, penalties, net smelter returns, etc. • The derivation of assumptions made of metal or commodity price(s), for the principal metals, minerals and co-products.	• A long-term price of US$2,500/t Zn, US$2,100/t Pb and US$17/oz Ag for has been applied.
Market assessment	• The demand, supply and stock situation for the particular commodity, consumption trends and factors likely to affect supply and demand into the future. • A customer and competitor analysis along with the identification of likely market windows for the product. • Price and volume forecasts and the basis for these forecasts. • For industrial minerals the customer specification, testing and acceptance requirements prior to a supply contract.	• LME for base metals is a transparent and deep market, lead and zinc production from the Toral project (will account for <1% of the lead / zinc market) and is not expected to over supply the market. • There has been no specification testing completed. However, Toral aims to provide lead and zinc to LME specifications
Economic	• The inputs to the economic analysis to produce the net present value (NPV) in the study, the source and confidence of these economic inputs including estimated inflation, discount rate, etc. • NPV ranges and sensitivity to variations in the significant assumptions and inputs.	N/A
Social	• The status of agreements with key stakeholders and matters leading to social licence to operate.	• The Toral exploration licence 15.199 referred to as a Permiso de Investigation (P.I.) covers an area of 20.29km^2, centred on co-ordinates 682467E, 4708159N. Minerals for investigation are lead, zinc, silver, and limestone.
Other	• To the extent relevant, the impact of the following on the project and/or	• This scoping study / mining study is not reporting any mining reserves.

Criteria	JORC Code explanation	Commentary
	on the estimation and classification of the Ore Reserves: • Any identified material naturally occurring risks. • The status of material legal agreements and marketing arrangements. • The status of governmental agreements and approvals critical to the viability of the project, such as mineral tenement status, and government and statutory approvals. There must be reasonable grounds to expect that all necessary Government approvals will be received within the timeframes anticipated in the Pre-Feasibility or Feasibility study. Highlight and discuss the materiality of any unresolved matter that is dependent on a third party on which extraction of the reserve is contingent.	• No material risks have been identified for the Toral Project. • There are reasonable grounds to expect that all necessary Government approvals will be received within the timeframes anticipated within this scoping study report. • The Toral Project is on an Exploration Lease, a Mining Lease for exploitation will be applied for at the pre-feasibility stage. • There are no material unresolved matters with any parties.
Classification	• The basis for the classification of the Ore Reserves into varying confidence categories. • Whether the result appropriately reflects the Competent Person's view of the deposit. • The proportion of Probable Ore Reserves that have been derived from Measured Mineral Resources (if any).	• This scoping study / mining study is not reporting any mining reserves
Audits or reviews	• The results of any audits or reviews of Ore Reserve estimates.	• This scoping study / mining study is not reporting any mining reserves
Discussion of relative accuracy/ confidence	• Where appropriate a statement of the relative accuracy and confidence level in the Ore Reserve estimate using an approach or procedure deemed appropriate by the	This scoping study / mining study is not reporting any mining reserves • +/- 30% accuracy applied to this scoping study

Criteria	JORC Code explanation	Commentary
	Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the reserve within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors which could affect the relative accuracy and confidence of the estimate. • The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used. • Accuracy and confidence discussions should extend to specific discussions of any applied Modifying Factors that may have a material impact on Ore Reserve viability, or for which there are remaining areas of uncertainty at the current study stage. • It is recognised that this may not be possible or appropriate in all circumstances. These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.	