Boliden Summary Report

Mineral Resources and Mineral Reserves | 2021

Tara Mine

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Table of contents

1 SUMMARY

This report is issued annually to inform the public (shareholders and potential investors) of the mineral assets held by Boliden Tara Mines.

Tara Mines is located 2km northwest of the town of Navan in Co. Meath Ireland and 50 km northwest of Dublin. The mine has a production capacity of 2.6mt per year and is the largest zinc mine in Europe. The newly discovered deposit, termed 'Tara Deep' is located approximately 1km southeast of the main mine and is currently a major focus for exploration and development.

In 2021, the mine produced some 2.32mt of mineralised material grading at 5.76% Zn, and 1.03% Pb and with a development distance of 10,709m. A summary table of the calculated 2021 Mineral Resources and Mineral Reserves is presented in Table 1 below, also with the figures for 2020.

	2021			2020		
	Mt	**Zn**	**Pb**	Mt	Zn	Pb
Classification		**%**	**%**		%	%
Mineral Reserves						
Proved	**0.6**	**5.6**	**1.1**	0.9	4.7	2.2
Probable	**15.5**	**5.4**	**1.4**	17.2	5.5	1.5
Total	**16.1**	5.4	1.4	18.1	5.5	1.5
Mineral Resources						
Measured	**0.03**	**5.6**	**1.3**	0.05	5.4	1.2
Indicated	**1.4**	**5.2**	**1.5**	0.9	5.1	1.3
Total M&I	**1.4**	5.2	**1.5**	1.0	5.1	1.3
Inferred	**38.4**	**7.6**	**1.5**	34.1	7.8	1.6

Table 1. Mineral Resources and Mineral Reserves in Tara Mines 2021-12-31.

1.1 Competence

The 2021 Reserves and Resources were estimated and compiled by a team of geologists and engineers, outlined in Table 2 below. Gunnar Agmalm took the role of both resources and overall competent person for Tara Mines 2021. Gunnar is Boliden's Ore Reserves and Project Evaluation manager and a member of AusIMM (Australian Institute or Mining and Metallurgy) and FAMMP (Fennoscandian Association for Metals and Minerals Professional).

Borja Arias took the role as competent person for reserves and is a Professional Member of the Institute of Materials, Minerals & Mining (IOMMM). Borja has more than 8 years' experience globally in reserve estimation in base metal deposits, with several years based at the Navan Deposit. Borja is now a Principal Engineering consultant for Deswik. Seth Mueller took the role as competent person for Environmental and Legal. Seth is a geologist with environmental expertise with more than 10 years of relevant experience. Seth is a full-time employee of Boliden.

Table 1. Contributors and responsible competent persons for this report

Description	Contributors	Support to Competent Persons	Competent Persons
Compilation of Report	Finn Oman		Gunnar Agmalm
Mineral Resources			Gunnar Agmalm
Mineral Reserves			Borja Arias
Geology	Finn Oman Robert Blakeman	Sofia Höglund	
Resource Estimation	Finn Oman Sofia Höglund		
Reserve Estimation	Borja Arias Ana Louro		
Mineral Processing	George Wilkinson		
Mining	Jonathan Talbot Nils Steen Charles Walker		
Environmental and legal permits	Paschal Walsh	Astrid Lindgren	Seth Mueller

2 GENERAL INTRODUCTION

This report is issued annually to inform the public (shareholders and potential investors) of the mineral assets in Tara Mines held by Boliden. The report is a summary of internal / Competent Persons' Reports for Tara Mines. Boliden's method of reporting Mineral Resources and Mineral Reserves intends to comply with the Pan-European Reserves and Resources Reporting Committee (PERC) "PERC Reporting Standard 2017".

The PERC Reporting Standard is an international reporting standard that has been adopted by the mining associations in Sweden (SveMin), Finland (FinnMin) and Norway (Norsk Bergindustri), to be used for exploration and mining companies within the Nordic countries.

Boliden is reporting Mineral Resources exclusive of Mineral Reserves.

2.1 Pan-European Standard for Reporting of Exploration Results, Mineral Resources and Mineral Reserves – The PERC Reporting Standard

PERC is the organisation responsible for setting standards for public reporting of Exploration Results, Mineral Resources and Mineral Reserves by companies listed on markets in Europe. PERC is a member of CRIRSCO, the Committee for Mineral Reserves International Reporting Standards, and the PERC Reporting Standard is fully aligned with the CRIRSCO Reporting Template.

The PERC standard sets out minimum standards, recommendations and guidelines for Public Reporting of Exploration Results, Mineral Resources and Mineral Reserves in Europe.

2.2 Definitions

Public Reports on Exploration Results, Mineral Resources and/or Mineral Reserves must only use terms set out in the PERC standard.

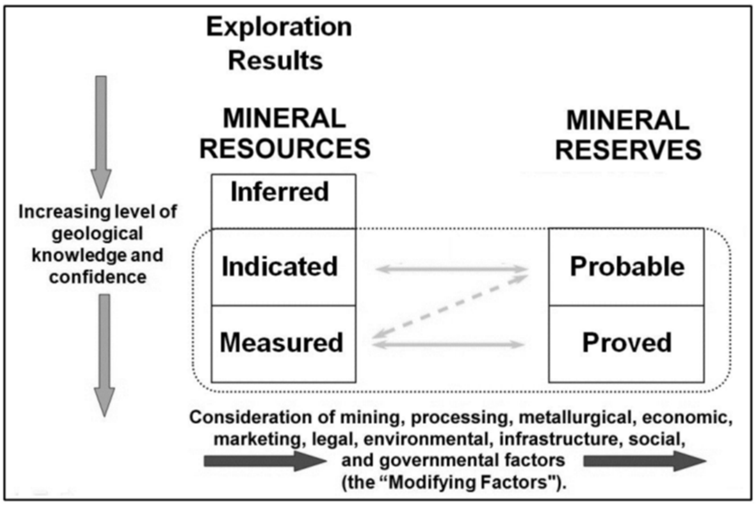

Figure 1. General relationship between Exploration Results, Mineral Resources and Mineral Reserves (PERC 2017)

2.2.1 Mineral Resource

A Mineral Resource is a concentration or occurrence of solid material of economic interest in or on the Earth's crust in such form, grade or quality and quantity that there are reasonable prospects for eventual economic extraction.

The location, quantity, grade or quality, continuity and other geological characteristics of a Mineral Resource are known, estimated or interpreted from specific geological evidence and knowledge, including sampling.

The Mineral Resources are presented additional to or exclusive of Mineral Reserves.

2.2.2 Mineral Reserve

A Mineral Reserve is the economically mineable part of a Measured and/or Indicated Mineral Resource.

It includes diluting materials and allowances for losses, which may occur when the material is mined or extracted and is defined by studies at Pre-Feasibility or Feasibility level as appropriate that include application of Modifying Factors. Such studies demonstrate that, at the time of reporting, extraction could reasonably be justified.

3 TARA MINES

3.1 Project Outline

Boliden Tara Mines is an underground zinc and lead mine producing 2.6 million tonnes per year with an annual development schedule of 13km and nearly 250km of active tunnels it is classed as the biggest zinc mine in Europe and one of the largest in global comparison. Tara Mine uses Drift and Slash and Long Hole Stoping as its main mining methods and has a current depth of around 1km.

The Mineral Reserve quantity represents an equivalent amount for 7 years of full production. However, with planned conversion of Mineral Resources it has the potential to be extended further. New exploration campaigns will also continue targeting to achieve increased Inferred Mineral Resources in Tara Deep with the aim to include some conversion drilling as well.

3.2 Major changes

During 2021, the process of stope designing was refined and executed on the final five block models which were upgraded to Leapfrog Edge during 2020 and 2021. Continuing from the work completed in 2019 and 2020, the focus was changed from reserves to resources during 2021. Wireframes were created capturing mineralisation across all models as a full review of each geological model was performed. This completes the process of conversion and refinement for all reserves and resources from Eagle (previous Geological/Engineering CAD software) to the combination of Deswik and Leapfrog Geo/EDGE.

Continued drilling in the Tara Deep Satellite deposit increased the resource by 1.9Mt to 28.1Mt grading @ 8.42% Zn and 1.61% Pb. In addition, the exploration drift was developed a further 499m in 2021, with 235m in ancillary development (truck loading, re-mucks, mini subs, sumps, electrical, Drainage etc). There was also development for strategic drilling locations totalling 146m and 194m for the RAR infrastructure. Total development for the area was 1074m.

3.2.1 Technical studies

An internal study was completed with regard to the mining recovery of stopes. This work has been reflected in the short term designs of reserves. During 2022 several projects will be undertaken to continue this work.

A study on QAQC procedures and analytical techniques at Tara mine was commissioned in Q4 of 2021 and will be complete for Q2 2022. The purpose of this study is to ensure the methodology and techniques employed for assaying of mineralised sections in diamond drilling are in accordance and continue to be suitable for the advancements made in geological and resource estimation since 2019 and appropriate levels of QAQC sampling is carried out during this process.

3.3 Location

Boliden Tara Mines is located in Navan, Co. Meath Ireland, ca 50km NW of Dublin (Figure. 2).

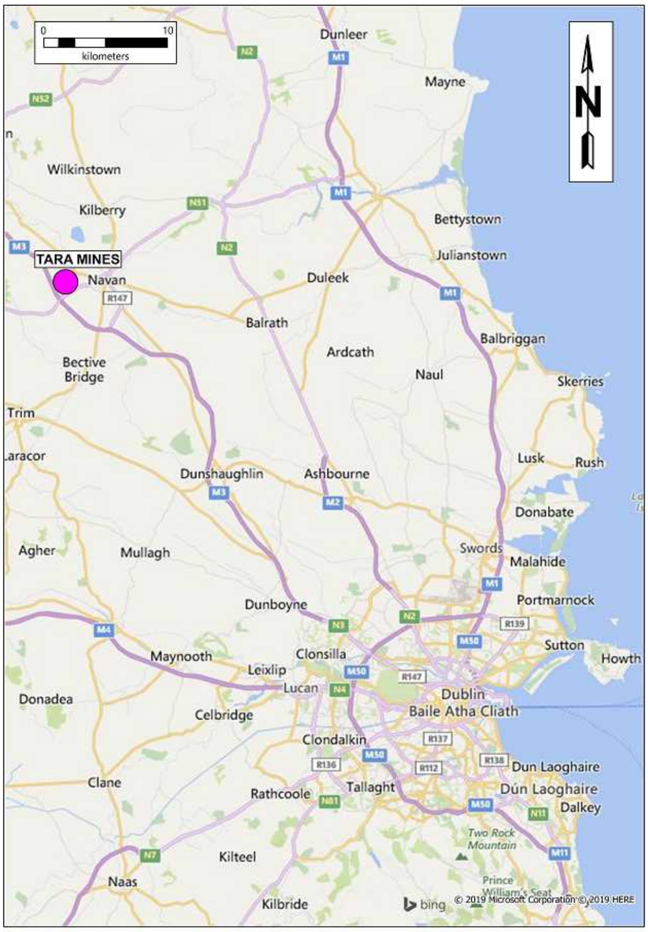

Figure 2. Map of Eastern Ireland showing Navan, the Boliden Tara mine and Dublin.

The Boliden Tara Mine is located 2km NW of the town of Navan in Co Meath Ireland and 50 km north west of Dublin (Figure. 2). The area comprises gently rolling farmland with a mild Atlantic climate. The mine is well served by motorway and rail links to Dublin airport and port. The orebody extends from near surface for ca 5km WSW to depths of nearly 1km. A satellite deposit, termed 'Tara Deep' was discovered in 2012, occurs at depths of 1-2 km below surface and is currently a major focus for exploration and development. The distribution of resources and reserves is shown in Figure 3.

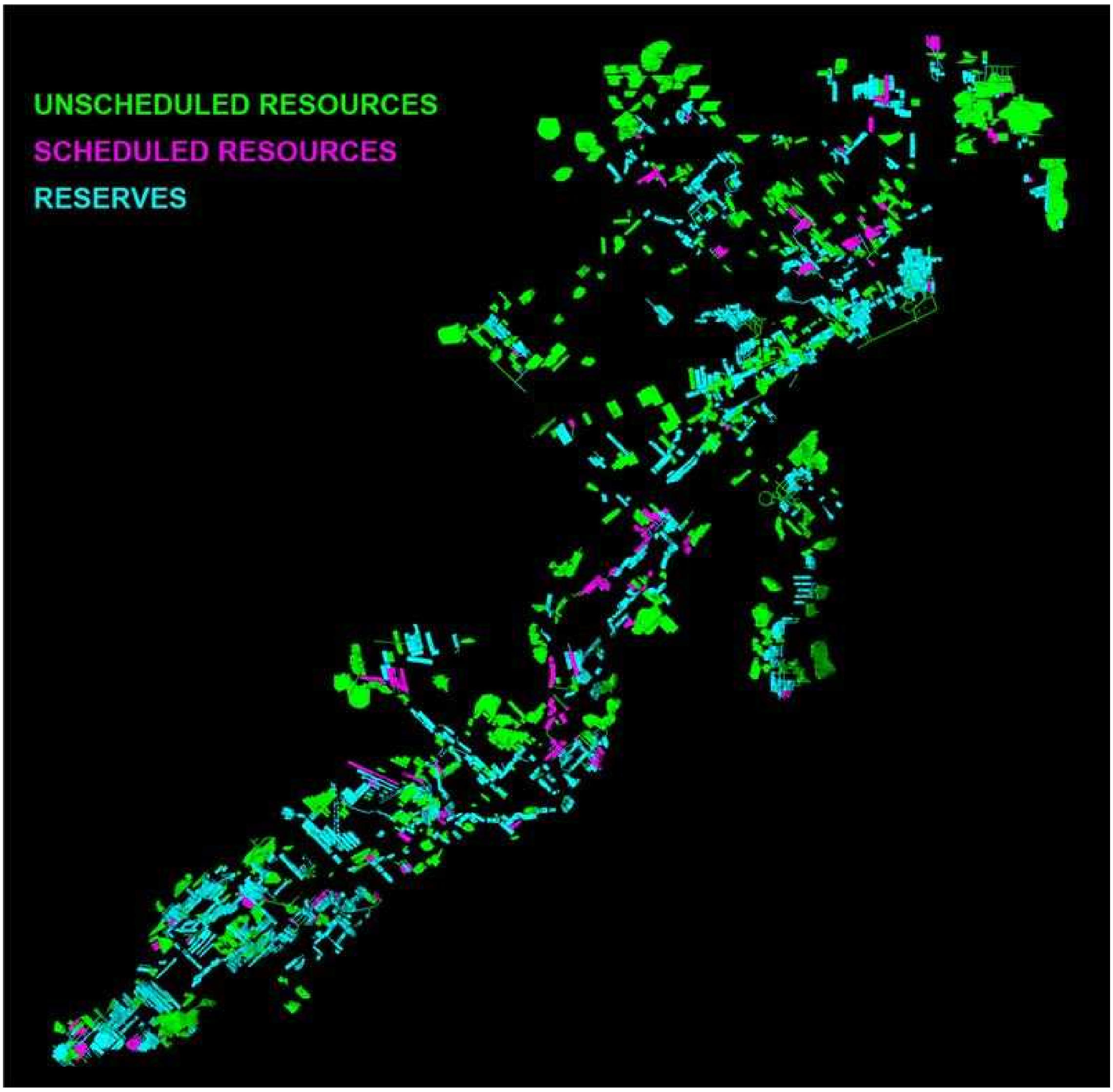

Figure 3.Resource and reserve distribution in the Navan Orebody.

3.4 History

The Navan Orebody was discovered in 1970 and production started in 1977 (see timeline below). Production has been scheduled at rates up to 2.6mt per year in recent years with the preceding 11 years production shown in Table 3.

Timeline

1968	Reports by the Irish agricultural institute highlights high concentrations of Zn and Pb in stream sediments west of Navan
1969-1973	Tara Exploration and Development company acquires prospecting licenses in the area. Shallow soil surveys show Zn, Pb anomalies north of the River Blackwater. Follow up surveys show large 900m x 400m anomaly of up to 5000ppm Zn and 2000ppm Pb, field mapping finds mineralised boulders and outcrops north of the river and induced polarization and resistivity shows anomalies north and south of the river.

	Diamond drilling program of 355 holes show initial resources of 69.9mt @ 10.09% Zn and 2.83% Pb
1973-1977	Underground development and production begins
1986	Acquired by Outokumpu
1990s	Exploration drilling discovers SWEX – south west extension raising the total pre-mining size of the ore body to 120mt +
2001	Nevinstown, north of the River Blackwater – purchased from Bula Ltd increasing holdings
2004	Acquired by Boliden
2012	Discovery of Tara Deep, SE of the main ore body following exploration drilling of a seismic anomaly.
2017	Development of Tara Deep Exploration access drift begun

PRODUCTION

	TONNAGE	GRADE			ZINC CONCENTRATE				LEAD CONCENTRATE				SILVER	
YEAR	MILLED	% Zinc	% Lead	% Iron	Tonnes	% Zinc	% Rec.	Metal	Tonnes	% Lead	% Rec.	Metal	g/t	t
2011	2,486,357	7.04	1.36	3.00	307,410	53.3	93.7	163,935	33,679	58.8	58.5	19,787	27	0.92
2012	2,502,278	7.00	1.44	2.87	305,170	54.4	94.8	166,021	40,807	55.2	62.4	22,517	41	1.67
2013	2,493,240	7.05	1.46	2.74	297,944	55.9	94.7	166,462	38,604	56.1	59.5	21,672	31	1.20
2014	2,286,701	6.92	1.55	2.69	267,242	56.0	94.5	149,646	41,940	53.1	62.8	22,262	58	2.43
2015	2,196,814	6.37	1.25	2.71	242,777	54.8	95.1	133,034	34,400	50.0	62.7	17,182	37	1.27
2016	2,602,863	5.96	1.15	2.70	267,851	55.2	95.3	147,797	37,091	52.8	65.6	19,582	29	1.08
2017	2,310,634	5.92	1.14	2.71	239,038	54.6	95.4	130,580	31,258	54.7	64.9	17,083	43	1.34
2018	2,200,154	6.28	1.20	2.72	242,264	54.4	95.3	131,742	29,299	57.0	63.3	16,712	40	1.16
2019	2,461,391	5.24	1.03	2.39	222,872	54.9	94.9	122,463	29,258	54.9	63.3	16,053	54	1.58
2020	2,316,337	5.76	1.03	2.39	229,843	55.3	95.3	127,008	27,404	52.6	60.3	14,401	34	0.92
2021	2,149,022	5.49	1.02	2.18	205,591	54.6	95.1	112,249	24,430	54.0	59.9	13,192	55	1.34
Total	26,005,791	6.29	1.24	2.65	2,828,002	54.8	94.9	1,550,937	368,170	54.4	62.1	200,443	37	14

Table 3. Milled tonnages and grades from Boliden Tara Mines over the period 2011-2021.

3.5 Ownership and Royalties

Boliden Tara Mines DAC is wholly owned subsidiary of Boliden Mineral AB part of the Boliden Group, Sweden.

3.6 Permits

The Boliden Tara Mines operation has a number of permits that include:

- Five Prospecting Licences granted by the Department of Environment, Climate and Communications that extend outwards from the mine for several kilometers and convey rights to explore and apply for State Mining Facilities. These are renewed every six years, subject to official review and fulfillment of licence commitment expenditures on a two-yearly basis.

- State Mining Facilities comprising three Leases and five Licences granted by the Department of Environment, Climate and Communications. These facilities will need renewal between 2021 and 2023. Currently terms are variable with recent facilities being granted with royalties to the Irish State varying from 3.25% to 3.75% of Net Smelter Return. Deliberation from the Department of Environment, Climate and Communications is awaited regarding licences from few small un-licensed areas in the SW part of the deposit.

- An Industrial Emissions licence from the Environmental Protection Agency was granted in September 2018.

- The financial calculations (that support the economic extraction of resource and reserves) include capital for a new tailings management facility, TMF7; with pre-planning completed to support the viability of the tailing extension.

Tara Deep is covered by a Prospecting Licence and the underground exploration development is exempt from Planning Permission. Tara Deep will require planning, licence review and State Mining Facilities in due course. Boliden Tara Mines have reasonable expectations that application for new permits and renewals of existing permits will be granted by the relevant authorities.

3.7 Geology

The Navan Orebody is a world-class carbonate-hosted Zn-Pb deposit comprising complex tabular lenses within Lower Carboniferous limestones and excluding depletion, would be over 130Mt in size. Detailed descriptions of the geology are available in a number of publications of which Ashton et al., (2015) is the most recent. The discovery of the Tara Deep satellite and outline geology are summarized in Ashton et al., (2018).

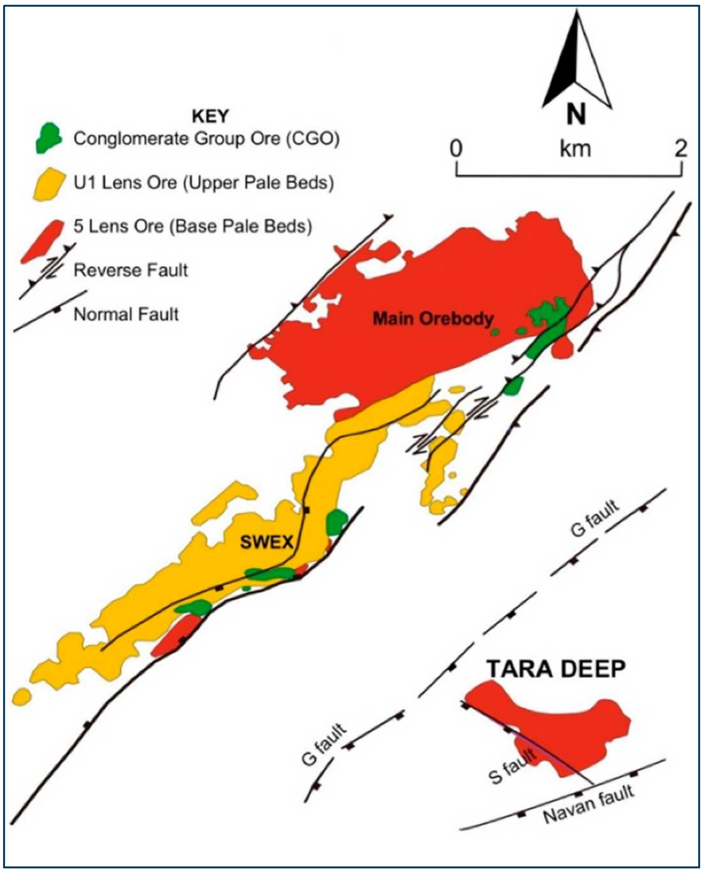

Figure 4. Ore lens position of mineralisation at Tara Mines

3.7.1 Regional

Central Ireland comprises generally flat lying sequences of Lower Carboniferous limestones with common inliers of sedimentary Lower Palaeozoic and Devonian rocks. The limestones are cut by numerous, locally syn-depositional NW to ENE trending major normal faults and these control the location of several carbonate hosted Zn-Pb deposits, of which Navan is by far the largest.

3.7.2 Local

In eastern Ireland, the Carboniferous Limestones are part of the Dublin Basin, a significant feature that after extensional basin-margin faulting and later Hercynian inversion, exposes some large Lower Palaeozoic inliers at its margins and exhibits some outliers of Namurian and later Permo-Triassic sediments.

3.7.3 Property

The Navan Orebody is located on the footwall (northern) side of a major south-dipping normal fault that constitutes a basin margin controlling feature. The orebody itself is controlled by a complex array of Lower Carboniferous normal faulting and slides on the uplifted footwall of this major fault. The orebody generally dips at about 10-15 degrees to the WSW and comprises several, locally stacked, tabular stratiform to strata bound lenses, oriented in general concordance with the host limestones (Figure 5). The mineralisation ranges from a few meters to over 70m in vertical thickness. A major slide and overlying debris flow, cuts the orebody obliquely and is also mineralised. The orebodies are effectively masked from the surface by a thick succession of deep-water calc-turbidites that comprise the Dublin Basin.

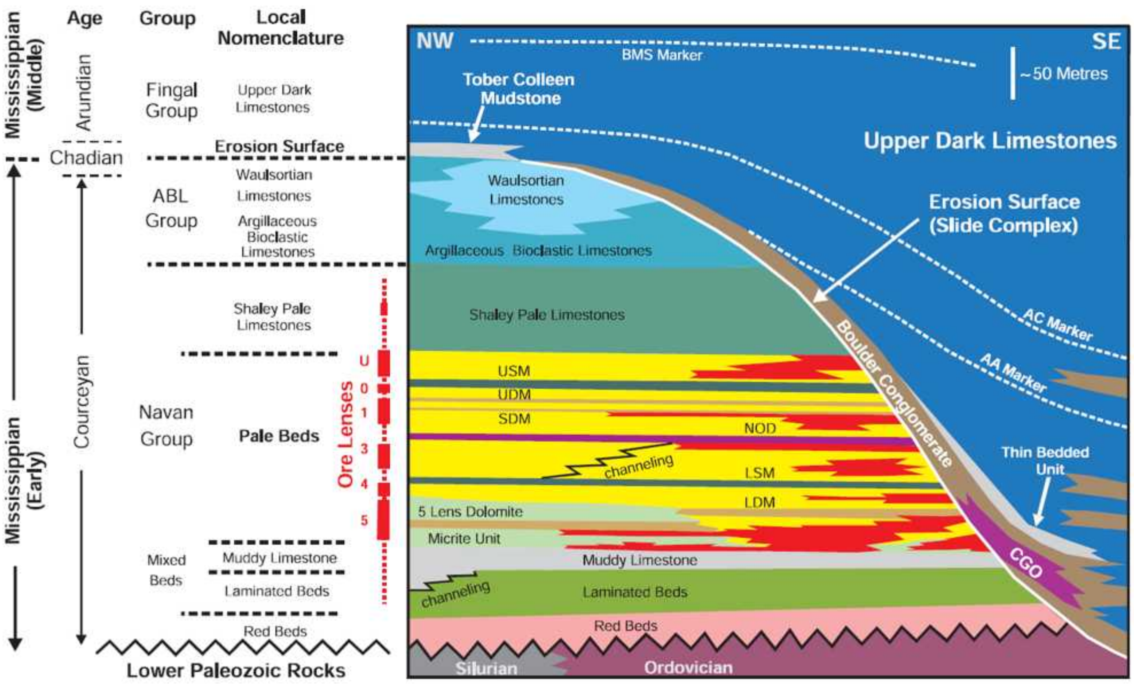

Figure 5. Geology of the Navan Orebody and position of mineralisation

3.7.4 Mineralisation

Although there are number of significant lenses and fault blocks at Navan, >95% of the mineralisation occurs as sphalerite and galena in partly dolomitized limestones as complexly textured replacements, veining and open-space infill where Zn:Pb ratios are typically around 4 or 5 to 1. Gangue mineralisation comprises subsidiary calcite, pyrite, marcasite, dolomite and barite. The remainder of the mineralisation occurs as massive pyritic lenses containing sphalerite and galena hosted by debris-flow conglomerates that overlie the deposit. This material contains often abundant fine-grained pyrite which has the potential of degrading the normally excellent metallurgy if not blended with normal run of mine ore.

3.8 Drilling procedures and data

Exploration at Navan comprises surface exploration and underground exploration. Surface exploration comprises several geochemical and geophysical techniques, with 2D seismic surveys also providing structural profiles through the host geology. The primary exploration tool is deep diamond drilling, and this extensively uses navigational deflection drilling enabling many intersections to be drilled from a single 'mother' hole with resultant benefits to timing and reduced impact on the environment.

Underground diamond drilling is performed from specially mined hanging-wall drifts located 10s of meters above the orebody and subsequently used for ventilation, dewatering, geotechnical and backfill purposes. Most underground diamond drilling is for delineation for upgrading Inferred to Indicated resources. Subsequent in-stope drilling is used to upgrade Indicated to Measured reserves prior to production.

3.8.1 Drilling techniques

Drilling comprises wireline or conventional diamond drilling with NQ diameter core for surface holes and AQ, AQTK or BQ core for underground core. Core recovery is typically close to 100%. All drilling is completed by contractor, currently Priority Drilling Ltd with a small portion carried out by Drillcon.

3.8.2 Downhole surveying

Hole set up underground is done via a gyroscopic azimuth aligner tool. Downhole surveying is accomplished either by Contractor or Exploration staff using Reflex electronic multi-shot equipment (the host rocks at Navan are not magnetic). Production holes shorter than 25m are generally not surveyed as they are frequently vertical or steeply inclined.

3.8.3 Sampling

All surface (NQ diameter) core is split prior to sampling and most core is retained for possible future examination. All underground core (AQ/ ATQK / BQ diameter) is sampled whole and the remainder completely discarded. Sampling is governed by ore-waste zones, lithology contacts and mineralisation styles though it is noted that the mineralisation at Navan is extremely variable in its distribution and textural styles, so it is impossible to aim for strict homogeneity in material sampled. Sample length typically ranges from 0.5 to 2m and averages around 1.5m. All samples are recorded in mineral logs where textural styles and a visual estimate of Zn+Pb% recorded. Although a very large emphasis is placed on recording the geology and grades of development faces at Navan and this material is used for interpretation, it is not currently used for resource grade estimation. Core loss is minimal at Tara however, when encountered is recorded in the core tray and in logging.

3.8.4 Logging

Logging across site is electronically entered into a Tara specific database through tablets or laptops. The geology is split into lithology, alteration and mineralisation with visual estimates given for any mineralisation noted in the core prior to assaying. Major faults are used as domain boundary structures and are either logged as individual intervals depending on the importance of the fault or combined into the lithology. Once the core is logged photographs are taken and stored on the network.

3.8.5 Density

Density is estimated from a set of multiple regression equations that relate density to sample Zn, Pb and Fe grades and which were created by experimental work relating measured density to assays. In general, the density of the ore is not much higher than the host rock (e.g. 2.8-3.2), unless high Pb and/or Fe grades are present and in these areas the regression curves take these variances into effect.

3.8.6 Analysis and QAQC

Samples are sent to an on-site laboratory for comminution and assay via conventional processes (crushing, milling, XRF assay etc). This laboratory is also used for environmental, mining and metallurgical work and has trained staff and full detailed QA/QC procedures, including external lab checks, standards etc. Core samples are subject to checks between estimated Zn+Pb% grades and assayed Zn+Pb% grades. In the case of disparity, samples are re-analysed and in the case of surface drill holes the split core is re-examined to check the assay estimate. In the case of Tara Deep core, all mineralized coarse rejects from the in-house lab are independently comminuted and assayed in an external laboratory (ALS Loughrea, Co Galway).

Previously only minimal QAQC was being carried out at Tara including visual vs assay checks and assays vs geology checks. During 2021 a project with the aims of planning a more appropriate level of QAQC samples was undertaken and will continue in to 2022.

3.9 Exploration activities and infill drilling

3.9.1 Surface Drilling

In total 45 surface holes were completed, drilled or collared during 2021 (6 collared in 2020). With 7 holes still active at year end, a total in excess of 34km of drilling were completed, including extensive navigation directional drilling. The majority of surface drilling was in the area of the Tara Deep deposit where further good intersections were made (see Figure 6). This is a structurally complex area with several generations of debris flows, slide packages and extensional faulting associated with the northern margin of the Dublin Basin. The impact of Covid-19 was to the detriment of other surface drilling proximal to the deposit with only three holes drilled at Donaghpatrick, Kilmainham and Halltown during 2021.

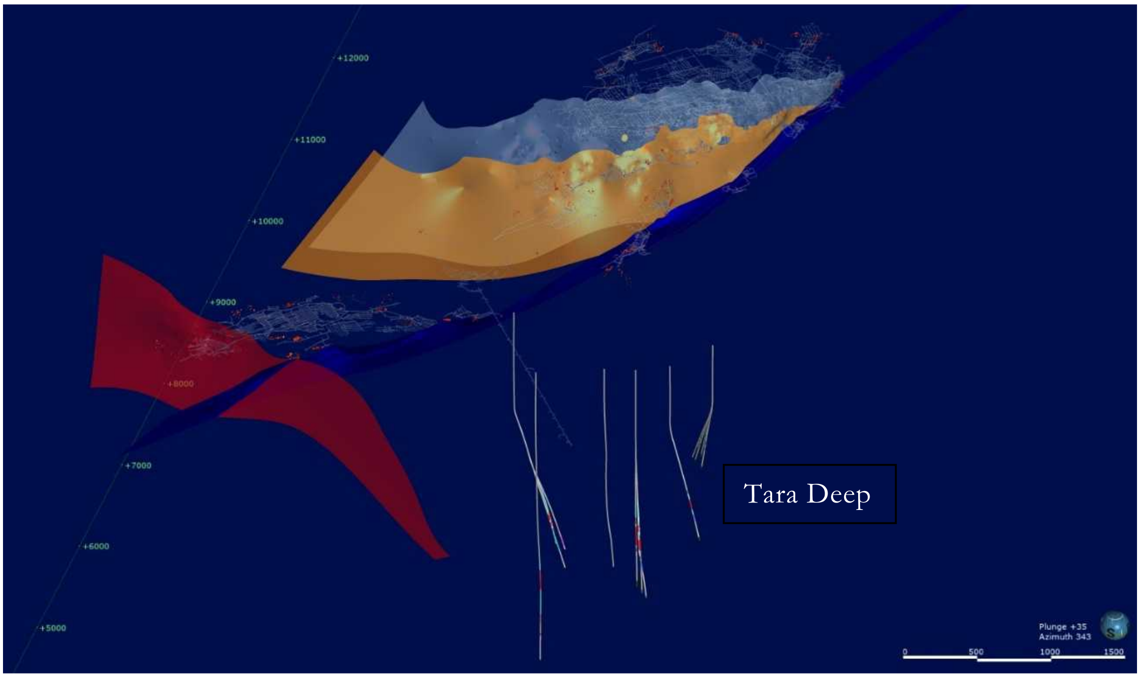

Figure 6. Surface exploration drilling 2021

3.9.2 Underground Exploration Drilling

In 2021, a total of 25,831 meters were drilled underground for the purposes of resource delineation or infill drilling conversion. Targets realised from the conversion of the final five models to Leapfrog edge and the subsequent wireframing around different areas, formed the foundation for the drilling campaign in 2021. Drilling was completed throughout the mine with particular focus on the Upper Swex and Southwest Extension. Significant prospects have been realised from drilling these targets and further drilling will continue into 2022 where a significant investment and increase in drilling meters will be made. Major changes were observed in Block 59 where a full redesign of the block was performed after delineation and infill drilling was completed. The geometry of the block changed significantly while also increasing available resources and potential targets around the periphery. Another area of note is the N3 area in Nevinstown, where significant resources were delineated, and further infill drilling was completed to establish a new mining block in the less active northern section of the mine.

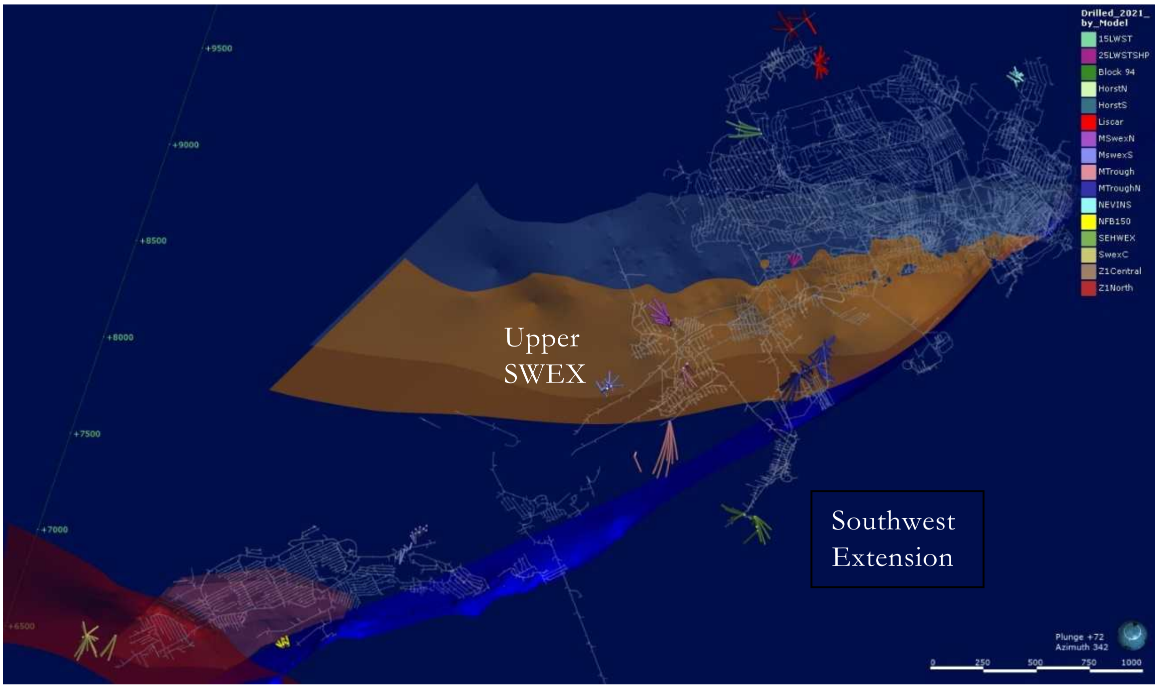

Figure 7. Underground exploration drilling 2021 – by main model areas

3.9.3 Underground Development and Production Drilling

There were 33,069m drilled in 2021 for conversion to measured and production infill. This drilling was carried out across the extents of the mine with a small portion drilled for water probes and service holes. Figure 8 below represents drilling completed in each block model. Significant drilling around the periphery of the northern sections of the upper mine has helped to establish new mining blocks and increase mining activities outside the Upper and Lower SWEX.

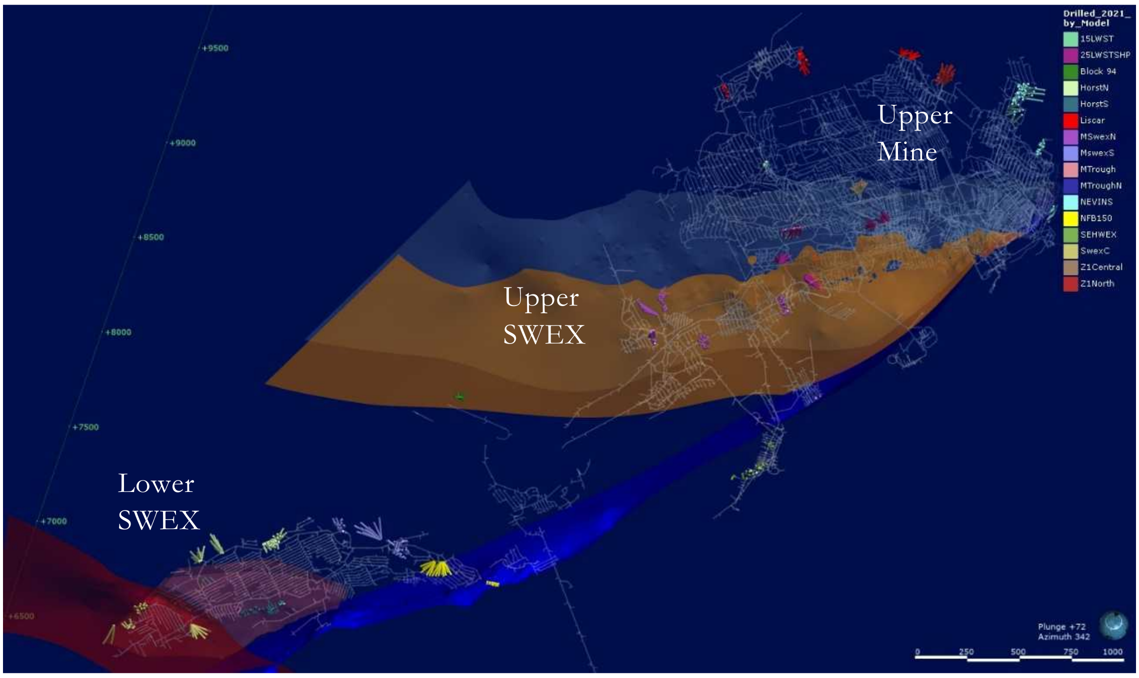

Figure 8. Underground development and production drilling 2021 – Colour coded by blockmodel

3.10 Mining methods, mineral processing and infrastructure

The Boliden Tara Mines in Navan started development in 1974 with production commencing in 1977. Over the years, the mining methods evolved from top-slice and bench to various types of open stoping. Milling is straightforward and comprises standard froth flotation to give Zn and Pb concentrates which are railed to Dublin Port and subsequently to smelters overseas. The majority of the Zn concentrate goes to Boliden smelters in Norway and Finland.

Since startup, the mine has mined and processed over 100Mt of ore and established much confidence in the processes running from exploration and mine geology, through planning, mining and backfill to milling operations. As the mine gets deeper, increasingly thinner areas of ore are being encountered and this requires continual focus on costs, diamond drilling and optimal mining methods.

3.10.1 Mining methods

In most areas of the mine open-stopes are designed parallel to the strike direction of the orebody such that in-stope development is sub-horizontal, whereas in the upper-near surface sections the open stopes are along dip and may necessitate slightly more complex development. In both cases, ore thicknesses up to about 20m can be mined via a single footwall drift with blast-hole drilling drilled upwards. Thicker ore necessitates hanging-wall drifts. In both cases, development is advanced to the end of the stope, and a slot crosscut created from where a raise is blasted using longhole techniques to the orebody hanging wall. Subsequent longhole blasting opens up a slot over full stope width and subsequent long-hole blasting creates a blasted ore muck pile in the developing stope which is mostly mucked-out using remote control and increasingly tele-remote operations. Areas of weak ground, often related to faulting may occur in the back and/or sidewalls of stopes. These are secured using various cable bolts patterns. Once a stope is complete, it is backfilled with hydraulically placed cemented sand-fraction tailings and then the intervening pillars are mined employing broadly similar methods. Stopes vary from 12 to 20m in width. Areas of drift height ore are extracted by low profile open stoping and referred to as 'Drift and Slash' stopes.

3.10.2 Mineral processing

In the underground mining operations, the ore is crushed in the primary crushing stations before hoisting to the surface and is transferred by a conveyor system to the coarse ore storage building. Ore processing in the mill is achieved by grinding, flotation, and dewatering. These processes are automated, monitored and controlled by a process control system. The grinding circuit, including an Autogenous mill, is designed to reduce the ore particle size to a size range suitable for separation, typically in the 10 to 75 micron range, and a maximum size less than 120 microns. The finely ground ore slurry is pumped from the grinding circuit to flotation cells where lead concentrate is recovered firstly and then followed by zinc concentrate. Following flotation, concentrates are dewatered using thickening and filtration in Metso pressure filters. The final concentrates are rail transported to Dublin and then shipped to various smelters in Europe, with the bulk of the Zn concentrate going to Boliden's smelters at Kokkola (Finland) and Odda (Norway).

For new potential mining areas laboratory test work is carried out on both the ore and waste to distinguish best performing milling techniques for the type of mineralisation that is to be mined.

3.10.3 Infrastructure

Access to underground operations is through 2 major declines, one location located in the shaft pillar area, which also contains the main production hoist. Subsidiary access-drifts then enter mining blocks that contain the stopes and are then used for truck haulage of ore to several underground crushers feeding conveyors that take the ore to the base of the main production shaft and then to surface. The coarse fraction of the mill waste product is used for backfill while the remnant tailings are pumped 2km to a tailings management facility.

3.11 Prices, terms and costs

Boliden's planning prices, which are an expression of the anticipated future average prices for approximately 10 years, are presented in Table 4. Currently mining and milling costs are of the order of 70 US$/t and even material near the resource grade cut-off of 5% Zn+Pb is potentially economic.

	Planning prices, 2021
Copper	USD 6,600/tonne
Zinc	USD 2,400/tonne
Lead	USD 2,100/tonne
Nickel	USD 16,000/tonne
Gold	USD 1,200/tr.oz
Silver	USD 17/tr.oz
Palladium	USD 1,000/tr.oz
Platinum	USD 1,000/tr.oz
Cobalt	USD 20/lb
USD/SEK	8.6
EUR/USD	1.19

Table 4. Long term planning prices currently used in Tara Mine, including exchange rates.

3.12 Mineral Resources

Mineral Resources in Tara mine are defined by mineralisation defining intersections of at least 5% Zn+Pb at thicknesses of 4m or more. Breakdown of resources into confidence intervals is largely based on diamond drill hole spacing, search radius and also on the experience of the geologist. In brief, the confidence levels are defined as follows:

Inferred Resources:
Defined by surface and underground drilling: centres ranging from 25-35-50m.

Indicated Resources:
Defined by surface and underground drilling: centres 15-25m

Measured Resources:
Defined by surface and underground drilling: centres 15m or less.

3.13 Mineral Reserves

Mineral Reserves are the economic, diluted recoverable resources selected by the planning engineer for mining so that Measured Resources would be re-classified as Proven Reserves and Indicated Resources would be re-classified as Probable Reserves. In practical terms the Probable Reserves, having been drilled-off from hanging-wall drift exploration headings, would usually need an additional program of in-stope drilling to be classified as Proven Reserves. Dilution and recovery factors are applied to calculate financial viability during the process of conversion from resources to reserves. These factors vary depending on the unit being mined, its size, ore thickness, location etc. Tables 5 & 6 illustrates resources and reserves figures comparing 2021 and 2020.

For the 2021 resource and reserve exercise, all blockmodels calculated across Tara and Tara Deep have been combined into four main areas - Main Mine, Upper Swex, Lower Swex and Tara Deep. Figure 9 below shows the spatial location of these four areas.

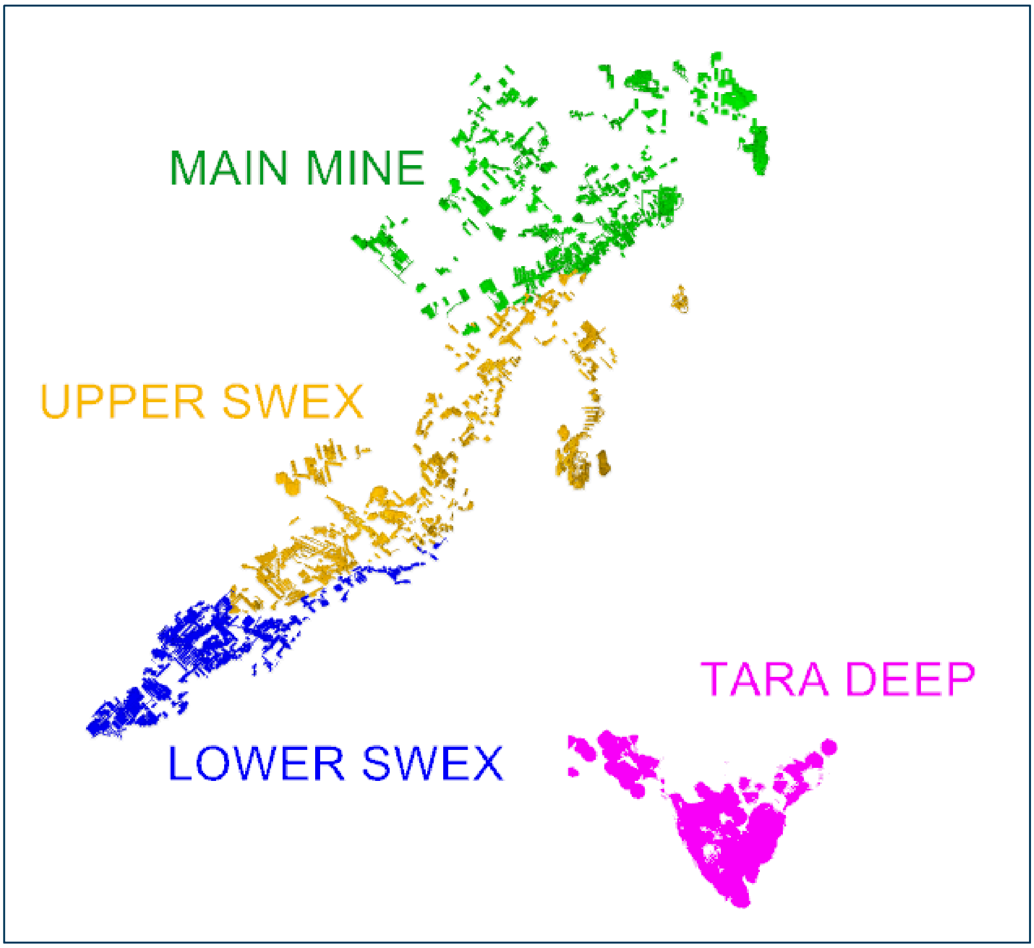

Figure 9. Mineral Resources and Reserves split by area

2021 MINERAL RESOURCES AND ORE RESERVES

	Mineral Resources	Tonnes (mt)	Zn %	Pb %	Ore Reserves	Tonnes (mt)	Zn %	Pb %
		MAIN MINE				**MAIN MINE**		
MAIN MINE 2021	Measured	0.03	5.6	1.3	Proven	0.2	4.5	1.0
	Indicated	1.1	5.2	1.6	Probable	6.8	5.4	1.8
	Inferred	4.4	5.1	1.6				
	Resources	5.5	5.2	1.6	Reserves	7.0	5.3	1.8
					Additional Scheduled	0.7	4.8	1.1
		Upper SWEX				**Upper SWEX**		
Upper SWEX 2021	Measured	0.0	0.0	0.0	Proven	0.2	5.1	1.0
	Indicated	0.2	5.1	1.1	Probable	4.7	5.2	1.1
	Inferred	4.3	5.5	1.1				
	Resources	4.6	5.5	1.1	Reserves	4.9	5.2	1.1
					Additional Scheduled	1.2	4.9	1.0
		Lower SWEX				**Lower SWEX**		
Lower SWEX 2021	Measured	0.0	0.0	0.0	Proven	0.2	7.6	1.5
	Indicated	0.1	5.4	1.1	Probable	4.1	5.7	1.1
	Inferred	1.5	5.8	1.1				
	Resources	1.6	5.7	1.1	Reserves	4.2	5.8	1.1
					Additional Scheduled	0.5	4.8	1.0
		TARA DEEP				**TARA DEEP**		
TARA DEEP 2021	Measured	0.0	0.0	0.0	Proven	0.0	0.0	0.0
	Indicated	0.0	0.0	0.0	Probable	0.0	0.0	0.0
	Inferred	28.1	8.4	1.6				
	Resources	28.1	8.4	1.6	Reserves	0.0	0.0	0.0
					Additional Scheduled	0.0	0.0	0.0
		GRAND TOTAL				**GRAND TOTAL**		
ALL 2021	Measured	0.03	5.6	1.3	Proven	0.6	5.6	1.1
	Indicated	1.4	5.2	1.5	Probable	15.5	5.4	1.4
	Inferred	38.4	7.6	1.5				
	Resources	39.8	7.5	1.5	Reserves	16.1	5.4	1.4
					Additional Scheduled*	2.4	4.9	1.0
					Total Scheduled	18.4	5.3	1.4

* Includes Scheduled Inferred Resources

Table 5. Mineral Resources and Mineral Reserves Tara Mine 2021-12-31.

Classification	2021 Mt	2021 Zn %	2021 Pb %	2020 Mt	2020 Zn %	2020 Pb %
Mineral Reserves						
Proved	**0.6**	**5.6**	**1.1**	0.9	4.7	2.2
Probable	**15.5**	**5.4**	**1.4**	17.2	5.5	1.5
Total	**16.1**	5.4	1.4	18.1	5.5	1.5
Mineral Resources						
Measured	**0.03**	**5.6**	**1.3**	0.05	5.4	1.2
Indicated	**1.4**	**5.2**	**1.5**	0.9	5.1	1.3
Total M&I	**1.4**	5.2	**1.5**	1.0	5.1	1.3
Inferred	**38.4**	**7.6**	**1.5**	34.1	7.8	1.6

Table 6. Mineral Resources and Mineral Reserves Tara Mine 2021-12-31.

3.14 Comparison with previous year/estimation

The changes between 2020 and 2021 resources and reserves are outlined in Figures 10 and 11 below. For reserves the major areas of difference were from a combination of stope redesign and refinements and upgrading of resources through drilling. Major mine redesigns were also carried out on the remaining five models that were converted to the new method of resource and geological calculations.

The biggest increase in resources came from the extensive exploration metres drilled through 2021 and the accompanying mine redesigns.

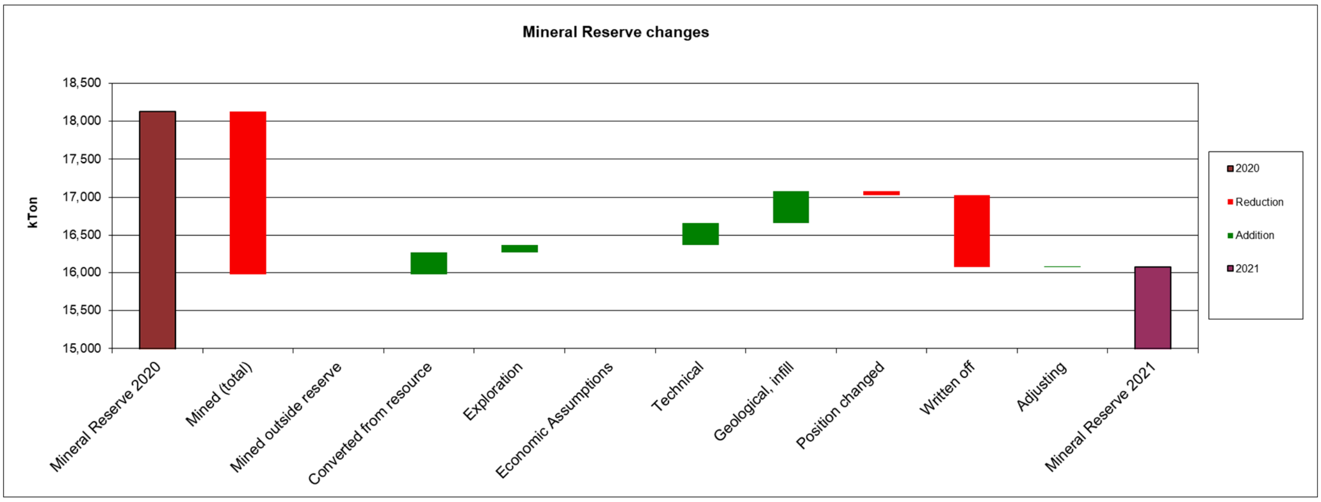

Figure 10. Changes to mineral reserve

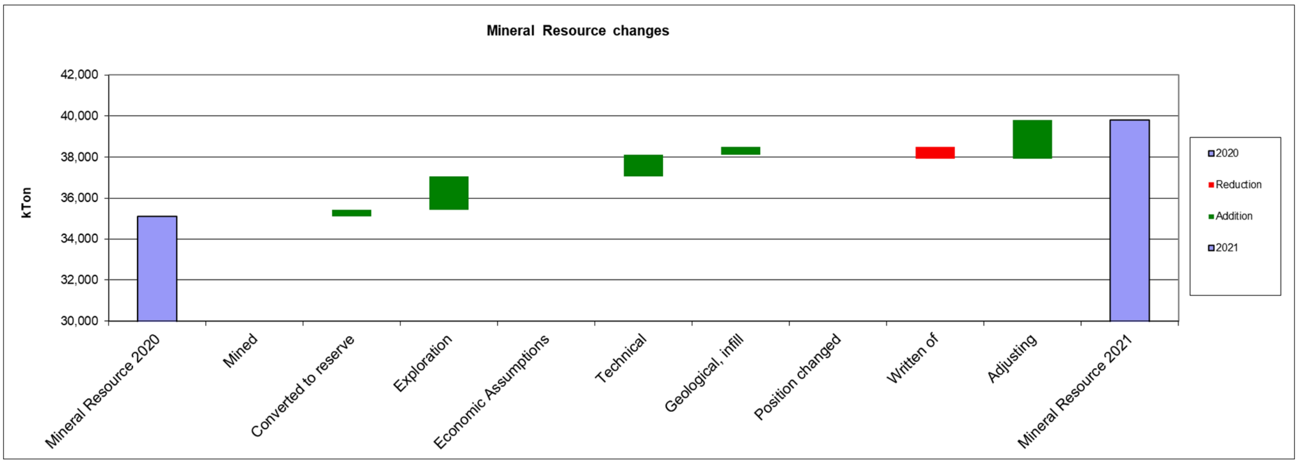

Figure 11. Changes to mineral resource

3.15 Reconciliation

A comparison between mine and mill Zn and Pb grades and tonnes is shown in Figures 7 & 8. Overall the grades varied slightly during Q1 and Q2 however over the year showed only 0.01% different for both zinc and lead. The comparison in tonnes during the year were marginally different due to shut downs and repairs for both conveyor systems and crushers.

	Mined according to grade models			Mill output			
	ton	Zn	Pb	ton	Zn	Pb	NSR
Month	t	%	%	t	%	%	kr/t
Jan	206,488	5.91	0.97	199,629	5.87	0.97	144.84
Feb	151,389	5.44	1.02	153,662	5.32	1.13	136.30
Mar	214,844	5.56	0.91	195,133	5.73	0.97	142.35
Apr	189,782	5.46	1.09	222,291	5.45	1.04	136.21
May	189,049	4.64	0.95	191,274	4.63	0.81	114.49
June	189,840	5.85	1	190,641	5.84	1	144.21
July	208,380	5.26	0.98	208,757	5.26	0.98	130.08
Aug	188,826	5.22	0.86	186,413	5.22	0.86	126.48
Sep	175,657	4.98	1.03	165,344	4.99	1.03	128.02
Oct	190,072	6.37	1.27	203,455	6.26	1.25	158.57
Nov	135,785	6.42	1.25	136,135	6.42	1.25	163.83
Dec	108,150	4.72	1.12	96,288	4.59	1.12	118.47
2021	**2,148,262**	**5.50**	**1.03**	**2,149,022**	**5.49**	**1.02**	**137.33**

Table 7. 2021 monthly reconciliation of mine production and mill output

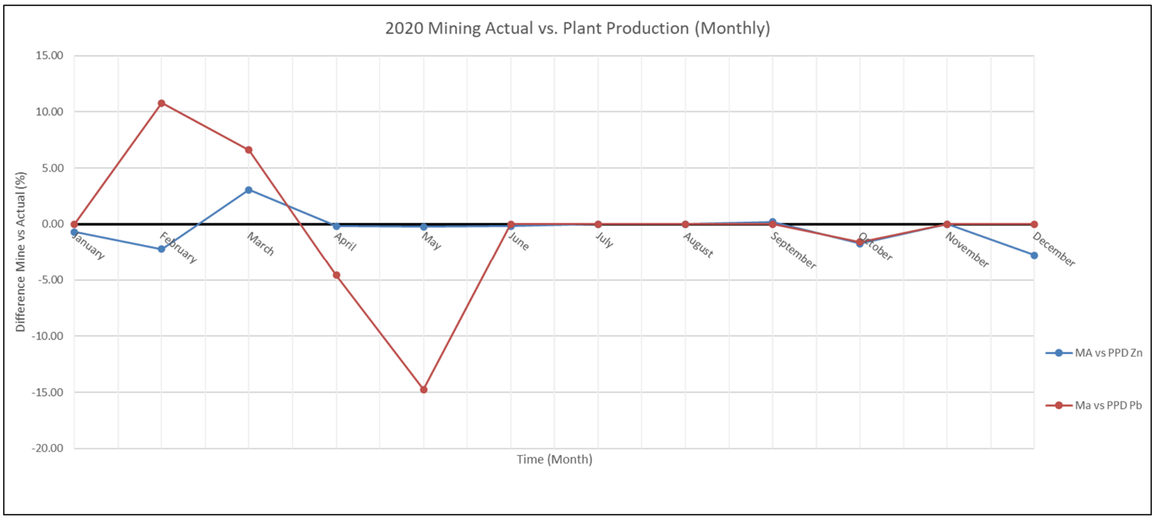

Figure 12. 2021 monthly reconciliation of mine production and mill output

	Mined according to grade models			Mill output			
	ton	Zn	Pb	ton	Zn	Pb	NSR
Year	t	%	%	t	%	%	kr/t
2011	2,530,385	6.84	1.35	2,486,357	7.04	1.36	76.7
2012	2,430,403	6.81	1.45	2,502,278	7.00	1.44	77.4
2013	2,500,569	6.93	1.46	2,493,240	7.05	1.46	71.6
2014	2,280,391	6.99	1.55	2,286,701	6.92	1.55	80.9
2015	2,198,169	6.38	1.25	2,196,814	6.37	1.25	70.7
2016	2,603,527	5.99	1.15	2,602,863	5.96	1.15	83.7
2017	2,312,988	5.91	1.14	2,310,634	5.92	1.14	119.3
2018	2,200,120	6.29	1.20	2,200,154	6.28	1.20	120.0
2019	2,480,018	5.24	1.05	2,461,391	5.24	1.03	85.1
2020	2,303,621	5.75	0.02	2,316,337	5.76	1.03	74.6
2021	2,148,262	5.50	1.03	2,149,022	5.49	1.02	137.33

Table 8. Yearly reconciliation of mine production and mill output

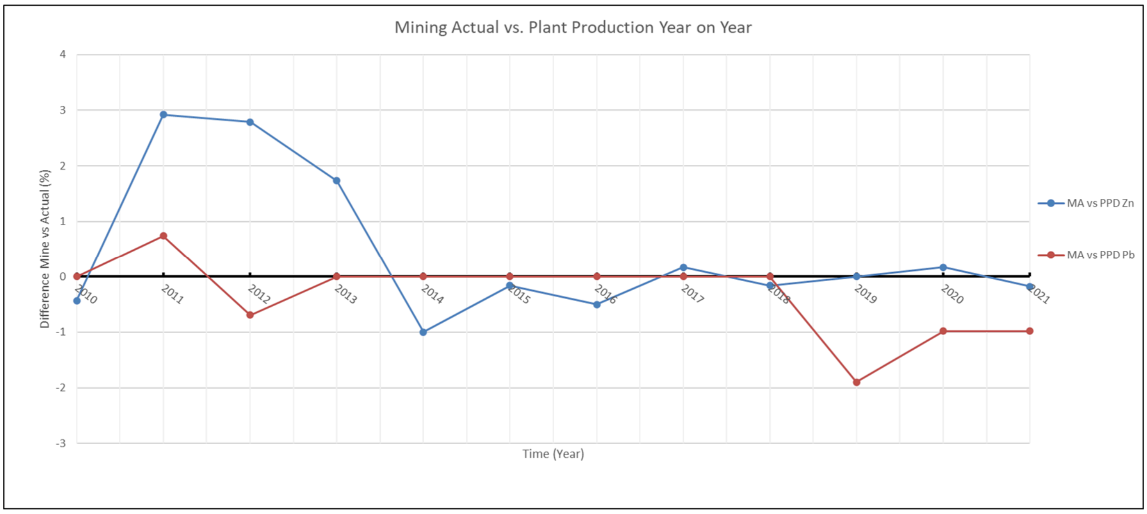

Figure 13. Yearly reconciliation of mine production and mill output

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Cover image courtesy of Kamil Gawel, Mine Geologist Tara Mines 2021.