VAST RESOURCES PLC

Mineral Resource Estimate for the Baita Plai Polymetallic Mine, Bihor County, Romania

29 October 2020

Prepared by:

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1. Executive Summary

Vast Resources PLC ("Vast") has completed a mineral resource estimate at its 80% owned Baita Plai underground mine ("BP") based on the recent completion of an underground diamond drill hole program. The drilling program was executed during the period March – September 2020. The mineral resource estimate has been prepared in accordance with the principles of the 2012 edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves, the ("JORC") code.

The mineral resource estimate covers the area immediately below 18 level of the mine, the lowest level of infrastructure, and is intended to provide certainty regarding the initial mine production life of approximately 3 – 4 years whilst historic mineral resources are verified.

An attributable mineral resource to Vast has been defined as per Table 1 and Table 2. Historic mineral resources for BP have been assigned to the Exploration Target category together with defined target areas for exploration on down dip continuations on the Antonio, Antonio North and Baia Rosie skarns. An attributable exploration target to Vast is provided in Table 3.

The mineral resource is and the exploration target is reported on a 100% basis in Table 4 through Table 6. The 20% is attributable to the AP Mining Group.

Table 1: 80% Attributable (Vast) mineral resource tonnes and grade.

Resource Category	Cut-Off	Tonnes	Grade							
	Cu Eqv %	('000's)	EqvCu%	Cu%	Pb%	Zn%	Mo%	Bi%	Ag(g/t)	Au(g/t)
Indicated	0.75	300.800	3.01	1.34	0.31	0.34	0.01	0.10	72.44	0.56
Measured + Indicated	**0.75**	**300.800**	**3.01**	**1.34**	**0.31**	**0.34**	**0.01**	**0.10**	**72.44**	**0.56**
Inferred	0.75	185.600	1.88	0.72	0.25	0.24	0.02	0.08	57.84	0.27
Total	**0.75**	**486.400**	**2.58**	**1.11**	**0.29**	**0.30**	**0.02**	**0.09**	**66.87**	**0.45**

Table 2: 80% Attributable mineral resources (Vast) tonnes and content

Resource Category	Cut-Off	Tonnes	Content							
	Cu_Eqv %	('000's)	EqvCu(t)	Cu(t)	Pb(t)	Zn(t)	Mo(t)	Bi(t)	Ag (Koz)	Au (Koz)
Indicated	0.75	300.800	9 062	4 043	938	1 009	39	303	700.5	5.4
Measured + Indicated	**0.75**	**300.800**	**9 062**	**4 043**	**938**	**1 009**	**39**	**303**	**700.5**	**5.4**
Inferred	0.75	185.600	3 493	1 338	469	448	35	147	345.1	1.6
Total	**0.75**	**486.400**	**12 556**	**5 381**	**1 407**	**1 457**	**74**	**450**	**1 045.7**	**7.0**

Table 3: 80% Attributable Exploration Target (Vast) for Baita Plai.

Exploration Target	Range (tonnes*1000)		Range (Cu %)		Range (Pb %)		Range (Zn %)		Range (Ag g/t)		Range (Au g/t)	
	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max
	1.400	**2.400**	**0.50**	**2.00**	**0.10**	**2.50**	**0.10**	**2.50**	**40.00**	**80.00**	**0.20**	**0.80**

Table 4: Vast Baita Plai Mineral Resource tonnes and grade on a 100% basis

Resource Category	Cut-Off	Tonnes	Grade							
	Cu Eqv %	('000's)	EqvCu%	Cu%	Pb%	Zn%	Mo%	Bi%	Ag(g/t)	Au(g/t)
Indicated	0.75	376.000	3.01	1.34	0.31	0.34	0.01	0.10	72.44	0.56
Measured + Indicated	**0.75**	**376.000**	**3.01**	**1.34**	**0.31**	**0.34**	**0.01**	**0.10**	**72.44**	**0.56**
Inferred	0.75	232.000	1.88	0.72	0.25	0.24	0.02	0.08	57.84	0.27
Total	**0.75**	**608.000**	**2.58**	**1.11**	**0.29**	**0.30**	**0.02**	**0.09**	**66.87**	**0.45**

Table 5: Vast Baita Plai Mineral Resource tonnes and content on a 100% basis

Resource Category	Cut-Off	Tonnes	Content							
	Cu_Eqv %	('000's)	EqvCu(t)	Cu(t)	Pb(t)	Zn(t)	Mo(t)	Bi(t)	Ag (Koz)	Au (Koz)
Indicated	0.75	376.000	11 328	5 054	1 173	1 261	49	379	876	6.8
Measured + Indicated	**0.75**	**376.000**	**11 328**	**5 054**	**1 173**	**1 261**	**49**	**379**	**876**	**6.8**
Inferred	0.75	232.000	4 367	1 672	586	560	43	184	431	2.0
Total	**0.75**	**608.000**	**15 695**	**6 726**	**1 759**	**1 821**	**92**	**562**	**1 307**	**8.8**

Table 6: Vast Baita Plai Exploration Target on a 100% basis

Exploration Target	Range (tonnes*1000)		Range (Cu %)		Range (Pb %)		Range (Zn %)		Range (Ag g/t)		Range (Au g/t)	
	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max
	1.8	**3.0**	**0.50**	**2.00**	**0.10**	**2.50**	**0.10**	**2.50**	**40.00**	**80.00**	**0.20**	**0.80**

2. Introduction

Vast Resources PLC ("Vast") has completed a mineral resource estimate for its 80% owned Baita Plai underground mine ("BP") located at Baita in the Bihor County of Romania. The mineral resource estimate has been completed following the principles of the 2012 edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves, the ("JORC") code.

The company is listed on the Alternative Investment Market ("AIM") of the London Stock Exchange ("LSE") Code: VAST. The Company has been active with exploration in Zimbabwe since 2004 and in 2015 transformed itself from an exploration company to a mining company. The company has had a presence in Romania since 2012.

The subject of the mineral resource report is the declaration of a maiden JORC compliant mineral resource estimate for BP. Previous mineral resource estimates were completed on the mine and submitted to the Agentia Nationala pentru Resurse Minerala ("ANRM"), the Romanian authorised body for natural Resources. These mineral resource estimates were reported under the Russian Code for reporting of Mineral Reserves ("NAEN Code"). The Mineral Resource estimation is based on surface and underground drill holes and underground channel sampling and represents a small portion of the total mining license concession.

This Report has been prepared based on technical reviews and information gathered by staff of Vast from August 2014 to the present date. The effective date of the mineral resource estimate is the 29th October 2020.

The information in this report that relates to Exploration Targets, Exploration Results, Mineral Resources or Ore Reserves is based on information compiled by Mr Craig Harvey, the Group Geologist for Vast and a full-time employee of the company. Mr Harvey is a Competent Person who is a Member of the Australian Institute of Geoscientists and of the Geological Society of South Africa, a Recognised Professional Organisation included in a list that is posted on the ASX website from time to time.

Mr Harvey has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity being undertaken to qualify as a Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Mr Harvey consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

2.1. Locality, Infrastructure and Environment

The Baita Plai underground mine is located in the Bihor County of Romania in the Apuseni Mountain Region. The closest major town is Stei, approximately 16km to the east with the major regional centre of Oradea approximately 80km to the east. The region is served by a small international airport at Oradea and the roads are in good condition with recent refurbishment of the bitumen road having been recently redone.

The mine is situated on the border of the Apuseni Natural Park and the license area extends in a north-easterly direction from the border. The principal mining license is held by a state-owned company, Baita S.A. which has the right to extract and process dolomite from underground. A second company, Baita Bihor S.A. has an association license to extract and process limestone by surface mining methods. A limestone quarry is located within the mining license perimeter.

2.2. History, Exploration, Mining and Processing

2.2.1. History

The area has a long and complex mining history. Mining activities are first recorded in the area as far back as 1270 with the extraction of iron from bauxites. Over the years, mining progressed to extraction of gold and silver from alluvial sources, copper extraction being recorded in the 1540's before moving on to complex polymetallic ore processing during the 18th century.

Bismuth and molybdenum mining and processing appears to have begun in the early 1900's with the mine being an important source of both metals during both world wars. Post the 2nd world war, the mine was closed but reopened in 1952 and commenced activities on both the molybdenum section and the polymetallic sections of the mine.

Modernisation took place from the 1960's with the current shaft infrastructure being developed and utilised in place of the adits and internals inclines used prior to this.

The mine continued to operate at varying levels of production with intermittent stoppages until 2009 when the mine was closed.

An Australian group, ElDore Mining Corporation Ltd (“ElDore”), in 2011 negotiated to purchase the mine for €15m which was later negotiated down to €5m. The group withdrew due to difficulties with a third-party vendor requesting non-refundable deposits, despite being positive on the potential of the mine. ElDore planned to invest $7m to double production to 200,000 tonnes per annum, improve loading, hoisting, ventilation, water pumps and upgrade the concentration (flotation) plant.

In 2011 a Chinese investor acquired Mineral Mining, the owners of the mine at that time. Mineral Mining operated the mine from early 2012 until March 2013, producing a single polymetallic concentrate containing copper, lead, zinc gold and silver with additional elements such as bismuth and molybdenum. The Chinese operators however departed in May 2013 leaving about €700,000 debt.

By 2015, the insolvent Mineral Mining S.A. had been successfully acquired by African Consolidated Resources S.R.L, a local Romanian subsidiary of Vast Resource PLC. During 2018, the association license was received and Vast Baita Plai S.A., formerly African Consolidated Resources S.R.L. began refurbishment work with production intended to commence during the latter half of 2020.

2.2.2. Exploration

Historical exploration records for the Baita Plai mine are held at various locations with some records classified as state secrets and therefore are unable to be reproduced. Basic records exist at the mine in paper format and require electronic capture and verification before being utilised.

Main level sampling records exist for the 16, 17 and 18 levels of the Antonio and Antonio North skarns. The Antonio skarn is the focus of Vast’s production efforts in the initial 5 years of production planning.

Vast has completed a total of 20 underground diamond drill holes producing BQ size core. The holes were drilled underground from 18 level and orientated to intersect the Antonio skarn in the area between 18 level and the proposed 19 level.

The core was logged on site by the geological staff and the collar positions of the holes surveyed upon completion of the drilling program. The core was split on site at the mine and half core was retained for reference purposes with the second half core being sent to the ALS chemical laboratory located at Rosia Montana, Romania.

Two exploration drill holes to level 20, approximately 90m below the Level 18 reportedly shows the continuation of the Antonio skarn (El Dore 2011, ASX public report). Archive searches at the mine revealed 2 drill hole logs with lithological drill hole logs, L-14 and L-28 respectively showing intersections of mineralised skarn at approximate 20 level and 21 level depths.

Drill hole L-14, drilled from 15 level vertically downwards, has no assays results for the skarn intersection at a mine elevation of 157m – 135m which corresponds to approximately 20 level inside the mine.

Drill hole L-28 drilled from 15 level vertically downwards intersected skarn mineralisation at a mine elevation of 100m – 115m which corresponds to between 20 level and 21 level. Assay results are recorded as 1.56% copper, 0.05% lead and 0.07% zinc. Gold and silver assays were not recorded and are presumed to have not been analysed.

2.2.3. Mining

Access to the underground workings is by means of vertical shaft number 1 (V1#) from surface to 13 level, corresponding to an elevation of 619m and 417m respectively. Men and material access to underground is provided via a short adit on 6 level elevation (576m) to V#1.

Further access into the mine is provided by sub-vertical shaft number 3 (SV3#) from the 13-level elevation to the deepest point in the mine on 18 level (elevation at 224.1m). A second sub-vertical shaft, sub-vertical shaft number 2 (SV2#) extends from 13 level to 15 level (elevation of 317.5m).

SV3# is the main transport route for men and material and the tramming of ore to surface. SV2# serves as a second escape way for men via travelling ways between 18 level and 15 level. In addition, SV#2 serves as the main return airway from 18 level through the mine to ventilation shaft at Baia Rosie.

The historical mining method has predominantly been overhand cut-and fill, with stopes being approximately 1.5 - 20m wide although stopes more than 40 meters wide have been observed on old plans. About 80% of the orebody is excavated as ore. Low grade areas are preferentially left as support pillars or, together with waste material, used as backfill in the stopes to fill the void and create working platforms for the drilling and blasting of the hanging wall.

Excavated ore is removed from the stopes using $1m^3$ pneumatic powered loaders and transported to the ore pass inside the stope. The ore is tipped down to the level below and loaded into $1m^3$ rail wagons. The rail wagons are transported by locomotives to the shaft where the rail wagons are loaded into the cage at the shaft for transport to surface. Currently a combination of battery locomotives and overhead trolley line electric locomotives are used.

Once the rail wagons are hoisted to 0 level at V1#, the rail wagons are loaded into a rotating tipper where the ore is tipped into 2 underground silos capable of holding 500 tonnes each. The ore is drawn from the silos by pneumatic powered chute controllers and loaded into $3m^3$ rail wagons on 6 level which exits the mine. The ore is transported by battery locomotive on surface for an approximate distance of 800 meters where it is discharged into 1 of 4 surface silos at the processing plant.

2.2.4. Processing

Ore can be selectively drawn from any of the surface silos at the plant at any given time. This gives the plant the opportunity to selectively process various types of ore if it has been designated and tipped as such. Oscillating feeders draw ore from the silos and feed a conveyor belt which in turn feeds the primary crusher.

From the primary crusher, the material is fed over a double deck vibrating screen with undersize reporting to the mill silo and oversize passing through a secondary crusher system of two jaw crushers and then being added to the mill silos.

There are 2 mill silos with capacities of 450 tonnes and 550 tonnes each feeding 2 ball mills. Currently one of the milling lines has been refurbished to allow production to commence

Currently a copper-zinc flotation process is followed with lead flotation to be added to the flotation process in the near future. The process entails the initial flotation of copper and the suppression of zinc. The copper rich flotation is furthered cleaned to produce a copper concentrate of between 26% to 30% copper. The zinc depressed in the initial flotation is reactivated and a zinc concentrate of between 45% to 55% zinc is produced in a separate flotation line. Further plans beyond lead flotation include the production of a molybdenum concentrate and a bismuth concentrate with tungsten recovery by gravity methods being investigated.

The copper concentrates are fed to thickeners before being sent to an automated ceramic disk filter. The filter has a filtration area of $20m^2$ and has a rated capacity of 0.7 – 1.2 tonnes per square meter of filtration area per hour, roughly 20 tonnes per hour.

Waste tailings from the processing plant after the concentrate filters are pumped approximately 7.0 kilometres by pipeline to the Fanatea Tailings Storage facility located in the village district of Campani. The TSF has two penstocks where the tailings are discharged and settled.

2.3. Geology and Mineralisation

2.3.1. Regional Geology

The Baita Plai mineralisation in geological terms is the most important manifestation of skarn-hosted mineralisation in the Apuseni Mountains. The mineralisation hosts a large number of mineral species (about 90), some of which were described for the first time in the world (rezbanyite, szaibelyite or ascharite, and kotoite).

The main economic minerals, notably Cu, Pb, Zn, Au, Ag, Mo, Bi, W, and B, are concentrated in favourable sites due to the interaction of local faults (notably the Blidar contact) and a number of lesser fractures that have localised the mineralised veins, magmatic alteration, and favourable host rock lithologies (limestone and dolomites).

The orebody is hosted within Triassic limestones and dolomites, in faulted contact with underlying Permian shales across the Blidar fault. The skarn alteration is related to a granite intrusion which is interpreted to lie beneath the sediments as at yet an undetermined depth. Dykes of granitic, andesitic and lamprophyre origins cut the sediments at high angles but are reported to be pre-skarn. The host limestones and dolomites have undulating sub-horizontal dips, varying from 0-30 degrees.

A mineralogical study on metallurgical samples sent to Grinding Solutions (UK) was conducted during 2020 in which the main copper bearing minerals were identified as chalcopyrite, bornite and chalcocite, the main lead bearing mineral is galena and the main zinc bearing mineral is sphalerite. The dominant silver bearing minerals were identified as hessite and tetrahedrite.

2.3.2. Local Geology and Mineralisation

The skarn mineralisation is hosted in several subvertical pipe-like bodies, often with tree-like branched geometries. Current mining is restricted to solely within the Antonio skarn. The Antonio North skarn is located approximately 300 meters to the north east of the Antonio skarn and is accessible from the same underground development structure serving the Antonio skarn on 18 level. It is postulated that the Antonio 1 and 2 pipes may merge at depth a few hundred metres below Level 18, forming a substantially larger orebody.

In plan view, the Antonio skarn is an elliptical shape with dimensions of approximately 160-250 meters on strike and approximately 10-20 meters wide across strike. Within the skarn, the economic mineralisation forms lenses, veins and pods 1.5 – 20 meters wide, and of widely varying orientations.

The margins of the mineralisation are sharp against the calcareous country rock and visual identification of the contacts ensures minimal mining dilution.

The Antonio skarn is shown to be vertically zoned with gold and silver caps and with lead and zinc being of higher grade in the upper levels. Copper grades show an increase with depth and the recent drilling has provided evidence of a high correlation between copper, gold, silver and bismuth grades. A moderate correlation between lead and silver has been observed in the recent data. As copper gold and silver are major contributors to the mine economics, increasing grade at depth is an attractive target.

2.4. Mineral Resources

2.4.1. Historical Mineral Resource Estimates

Vast conducted a preliminary due diligence of the Baita Plai mine in October 2014 which states the mine has an official mineral resource (non-JORC) as submitted to the Romanian authorised body for natural Resources of 1.88Mt at 2.19% Cu, 3.46% Zn, 3.07% Pb, 128g/t Ag and 1.41g/t Au.

Attempts to obtain the reference documents from the current data available to Vast on the mine have been unsuccessful with indications that the documents have been archived off site in accordance with the Romanian mining law. These mineral resources do not form part of this mineral resource estimate, bar a portion represented by a single historic mineral resource block. As such they are not included in the JORC mineral resource tabulation and are assigned to an Exploration Potential category until they are able to be further verified.

2.4.2. Current Mineral Resource Estimate

The mineral resources reported are compliant with the requirements of the JORC 2012 reporting code. The mineral resources represent the area immediately below 18 level to a depth of approximately 60 meters below 18 level on the Antonio skarn only. The drilling indicates the mineralisation is continuous to this level and in all likelihood extends beyond this as indicated by historic, but incomplete drill hole records on the mine.

The total mineral resource for this area is tabulated in Table 9 and the mineral resources attributable to Vast are tabulated in Table 10. The mineral resource estimate is reported at a 0.75% copper equivalent grade. Metal equivalents have been calculated by assigning revenue to the mineral resource blocks based on a Cu metal price of $6655/tonne, a Zn metal price of $2498/tonne, an Ag price of $26.6/ounce and an Au price of $1927.9/ounce. Lead has not been used in the calculation as the process recovery for lead is currently being refined.

The total unit cost for BP has been determined as per Table 7 which is inclusive of operating cost, overhead costs, royalties and capital development costs. A stoping dilution of 15% and an ore loss underground of 5% has been applied to the average in-situ grades on a 0% cut-off basis. A block factor of 90% has been applied to the in-situ grade estimates for the purpose of the cut-off calculation.

Table 7: All in cost ($ / Milled Tonne), Baita Plai

Operating Costs	$/milled ton	46.30
Off mine costs	$/milled ton	16.86
Capital development cost	$/milled ton	2.16
All in Cost	$/milled ton	65.32

Metallurgical recoveries have been applied to the diluted in-situ grades as per Table 8. A lead concentrate has not been utilised in the revenue calculation as production of a lead concentrate expected to begin production approximately 4 months after the copper and zinc concentrate production commences. This is due to the requirement for additional flotation cells in the processing plant.

Table 8: Metallurgical Recoveries applied to equivalent calculation

Metal	Met. Test	Factor	Recovery used	Comments
Copper	88 %	90%	79.2 %	Copper concentrate recovery only
Zinc	89 %	90%	80.0 %	Zinc concentrate recovery only
Silver	81 %	90%	73.3 %	Overall recovery in copper and zinc concentrates
Gold	87 %	90%	78.6 %	Overall recovery in copper and zinc concentrates

To calculate the metal equivalent grade, the revenue contribution for each block is calculated based on the set commodity prices and the modified grades after applying dilution factors, block factors and metallurgical recoveries. Copper is the main commodity of interest and has been selected to report equivalent grades. The revenue contribution from each commodity in each block is summed to obtain a total contribution. This is then converted to a copper equivalent grade using the set copper commodity price. The calculation returns a cut-off grade of 0.65% copper equivalent. The mineral resources have been stated at a cut-off grade of 0.75% copper equivalent.

The current mineral resource estimate is visually represented in Figure 3 through Figure 11. The historic mineral resources have been grouped with exploration targets delineated for below 19 the current mineral resource model on the Antonio skarn to 21 level, below 18 level on the Antonio North skarn to 21 level and below 15 level to 18 level on the Baia Rosie skarn. The exploration target potential is summarised in Table 11 and the exploration target resources attributable to Vast in Table 12.

Figure 1: 3_Dimensional view depicting 16, 17 and 18 levels, Antonio skarn on 16 and 17 levels, planned incline development to 19A and 19 levels with the Antonio skarn modelled below 18 level.

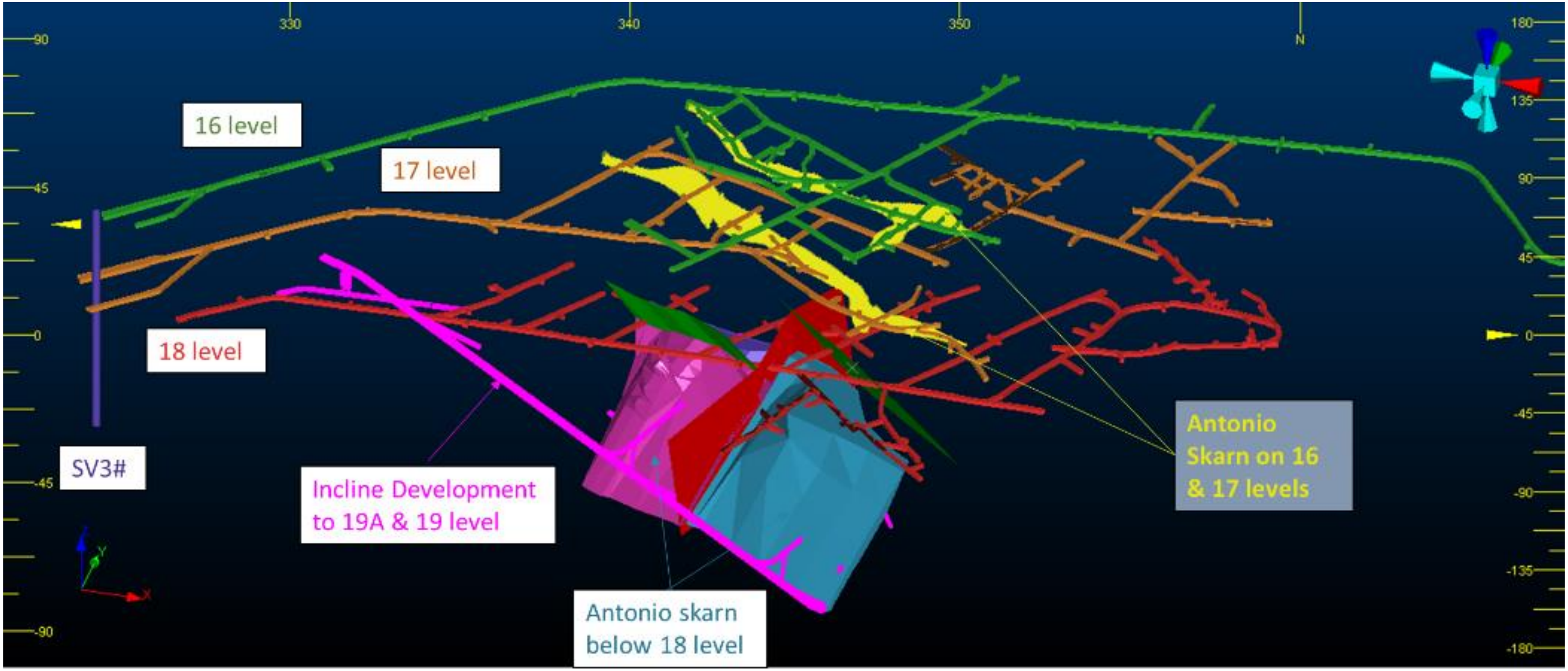

Figure 2: 3_dimensional view depicting the modelled Antonio skarn with underground diamond drill holes shown.

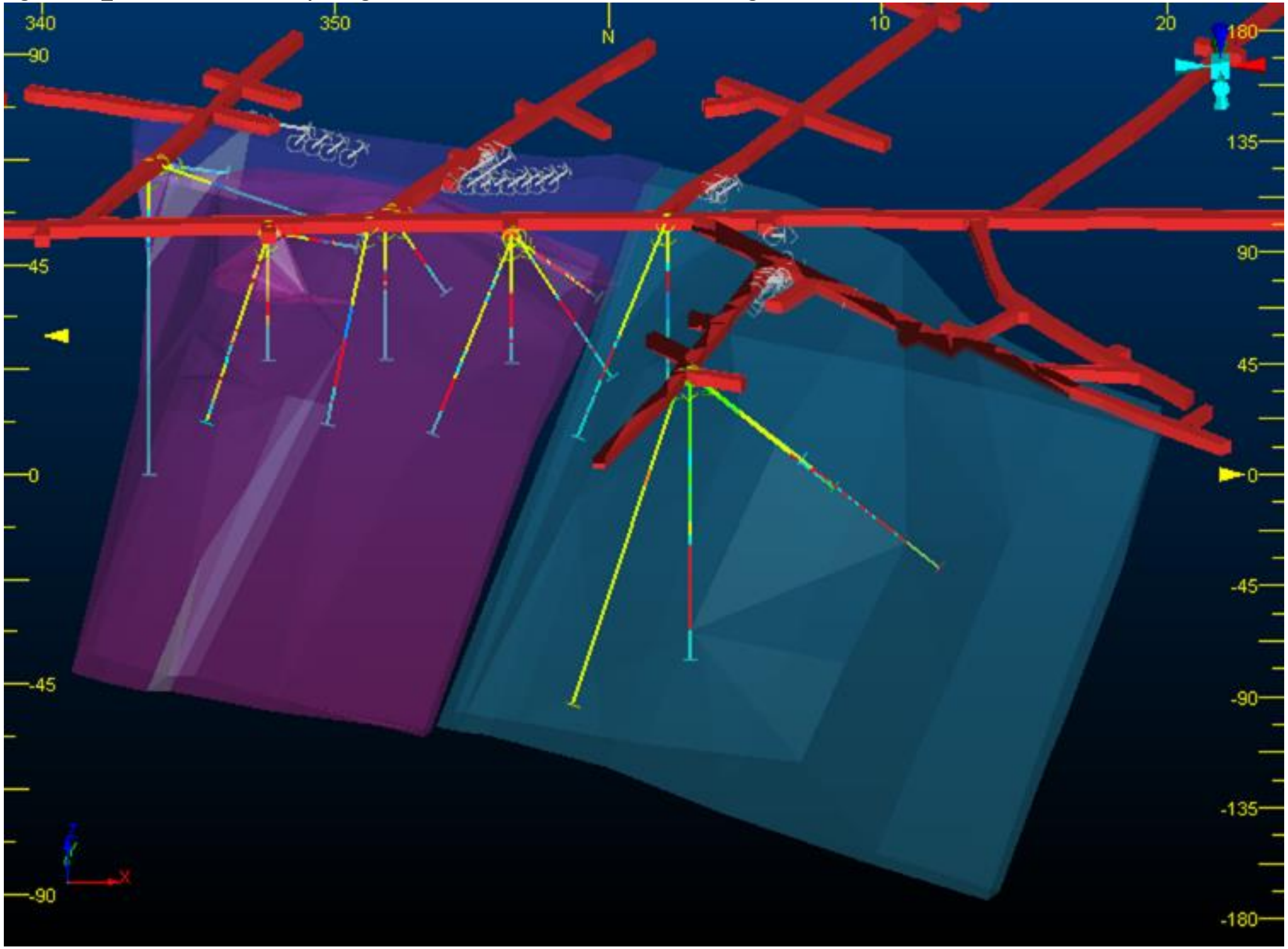

Figure 3: 3-Dimensional view depicting Copper Equivalent %

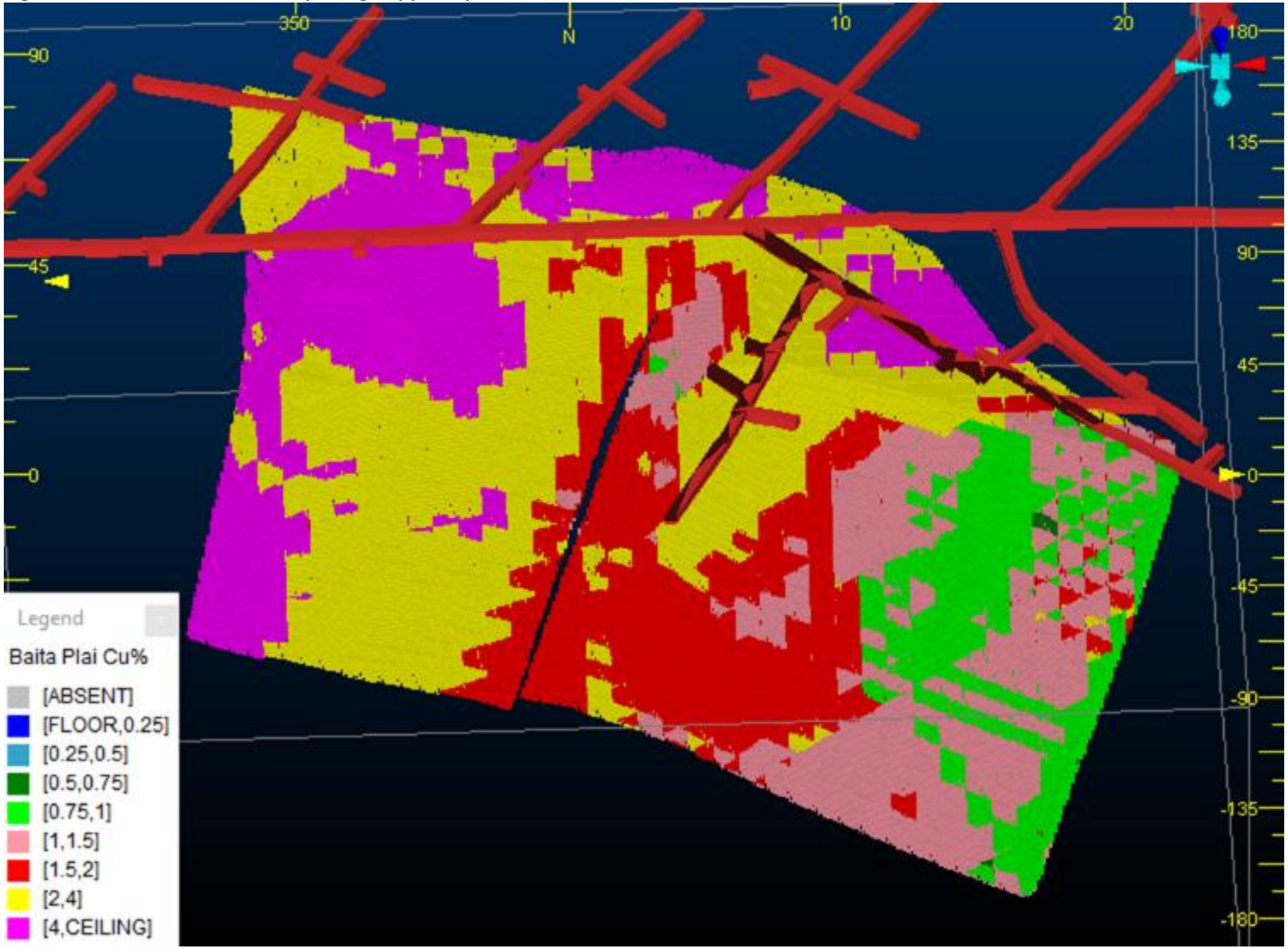

Figure 4: 3_dimensional view depicting Copper %

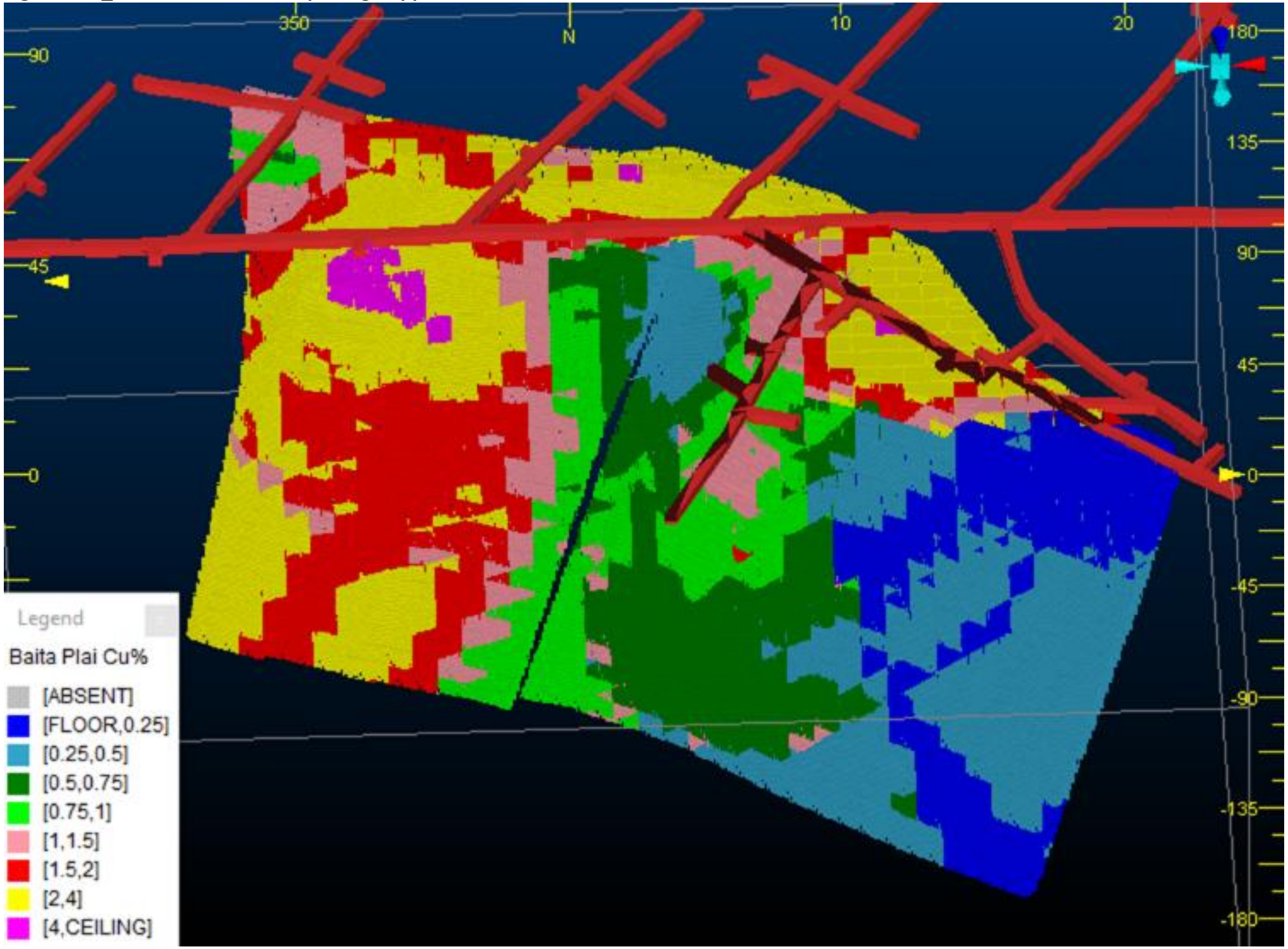

Figure 5: 3_Dimensional view depicting Lead %

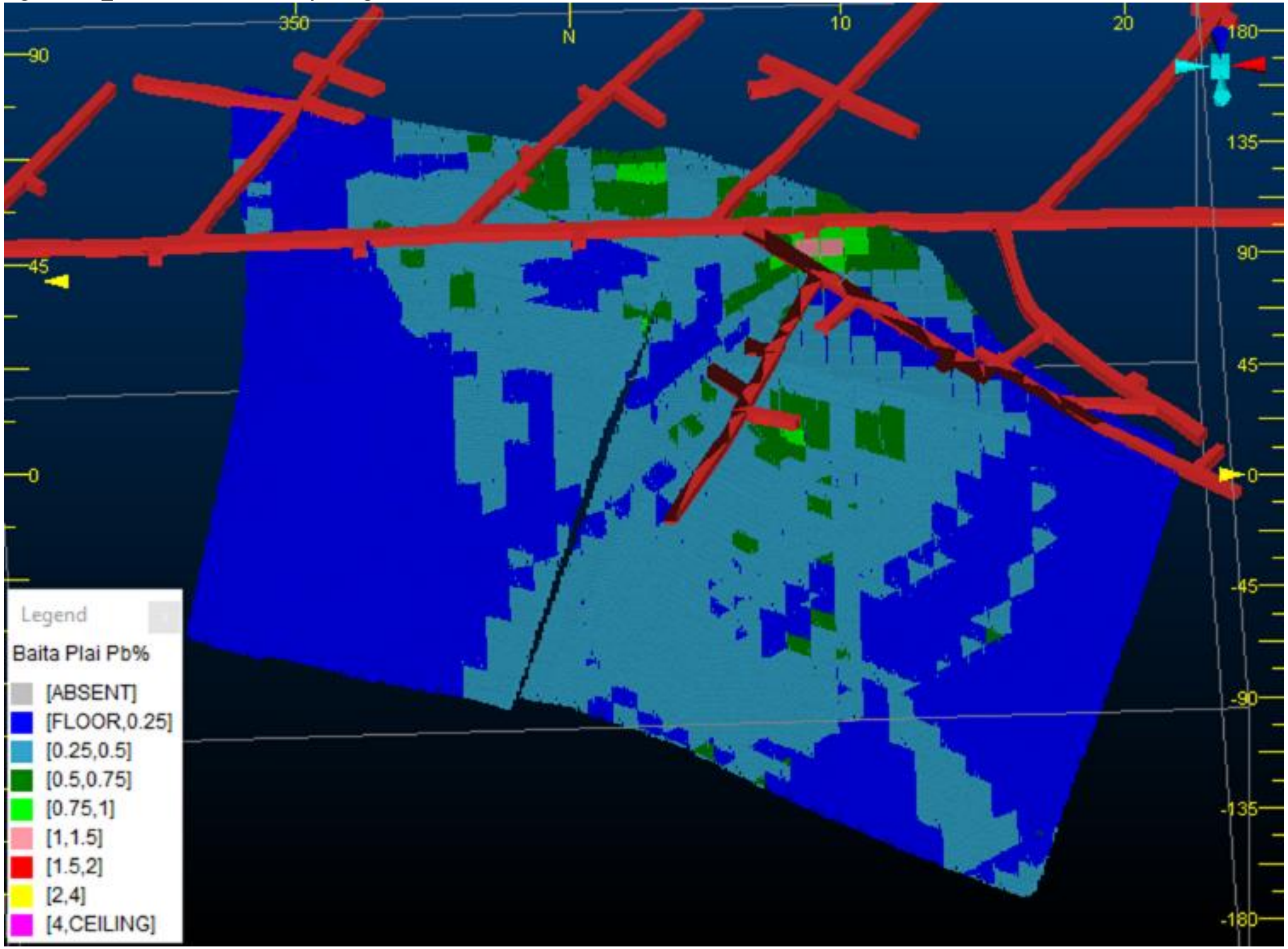

Figure 6: 3_Dimensional view depicting Zinc %

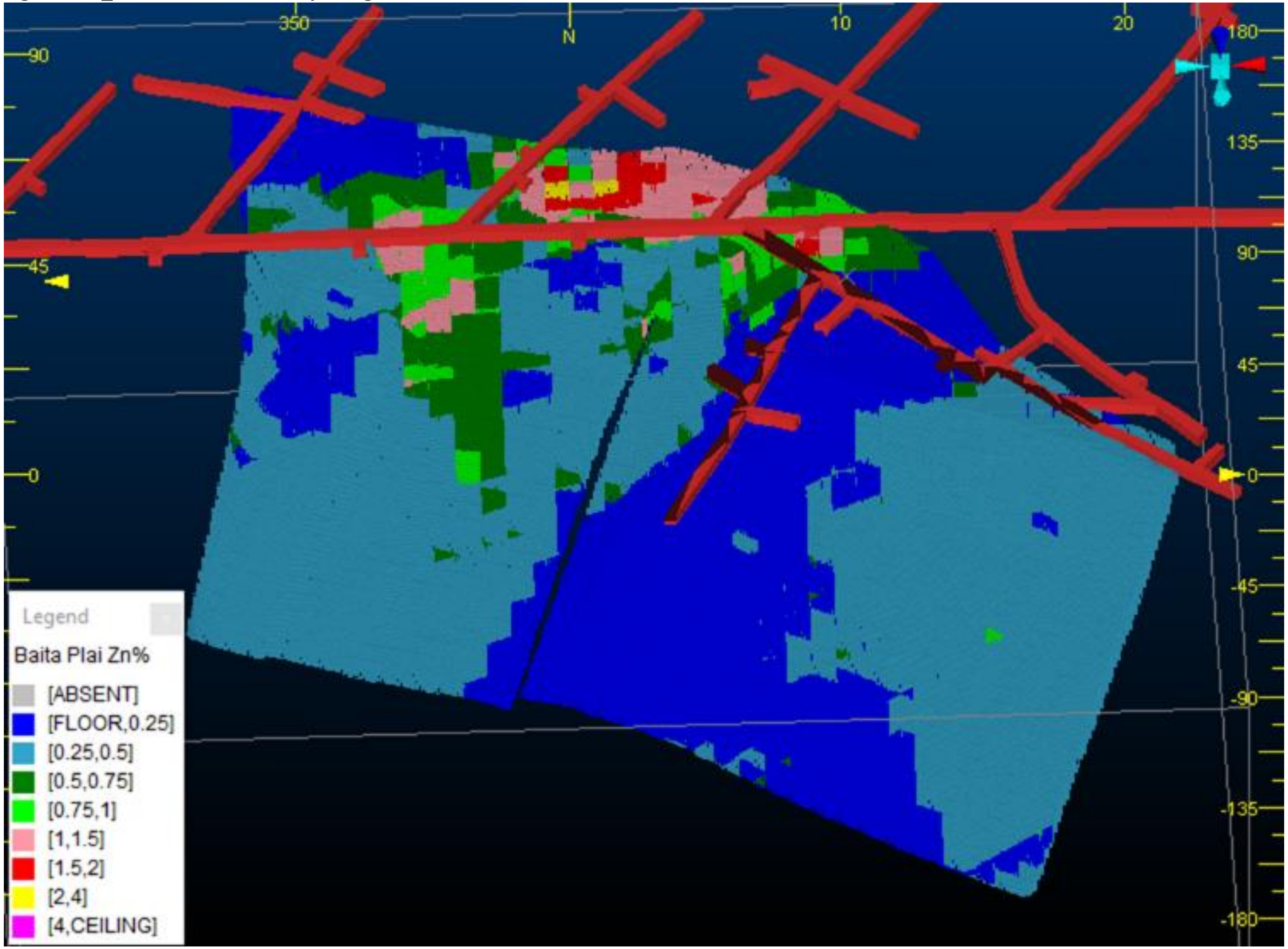

Figure 7: 3_Dimensional view depicting Molybdenum %

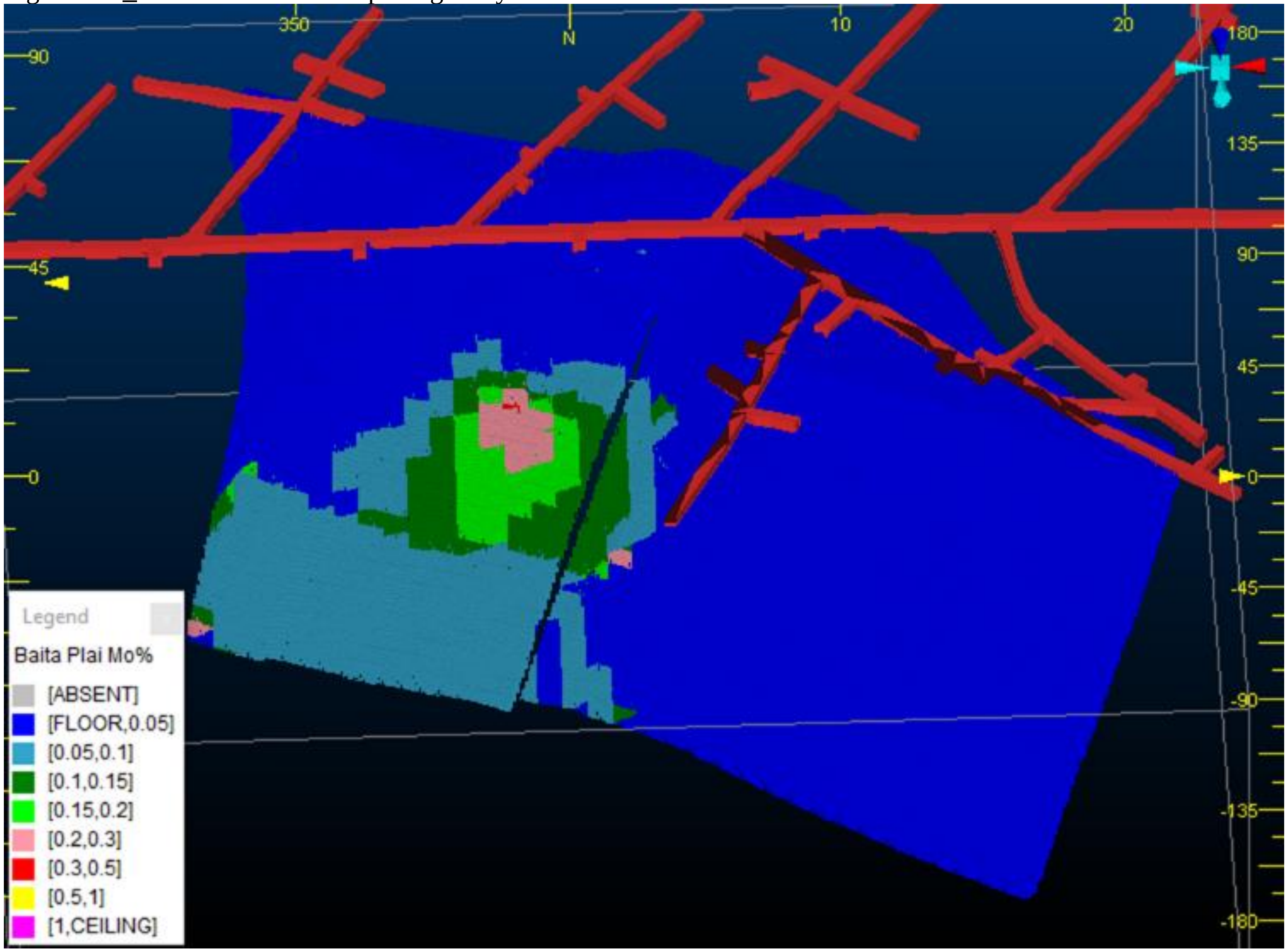

Figure 8: 3-Dimensional view depicting Bismuth %

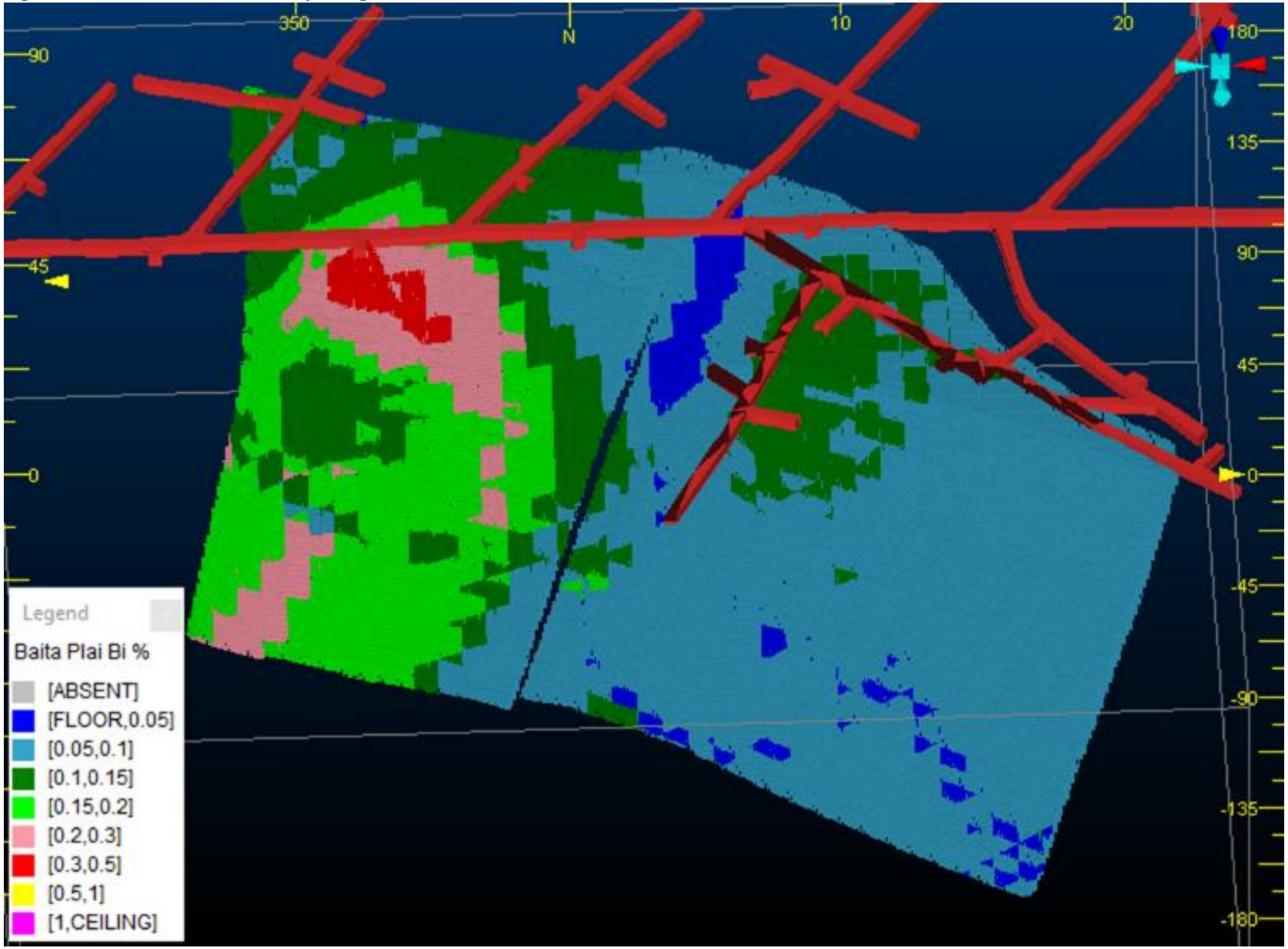

Figure 9: 3_Dimensional view depicting Silver (grammes per tonne)

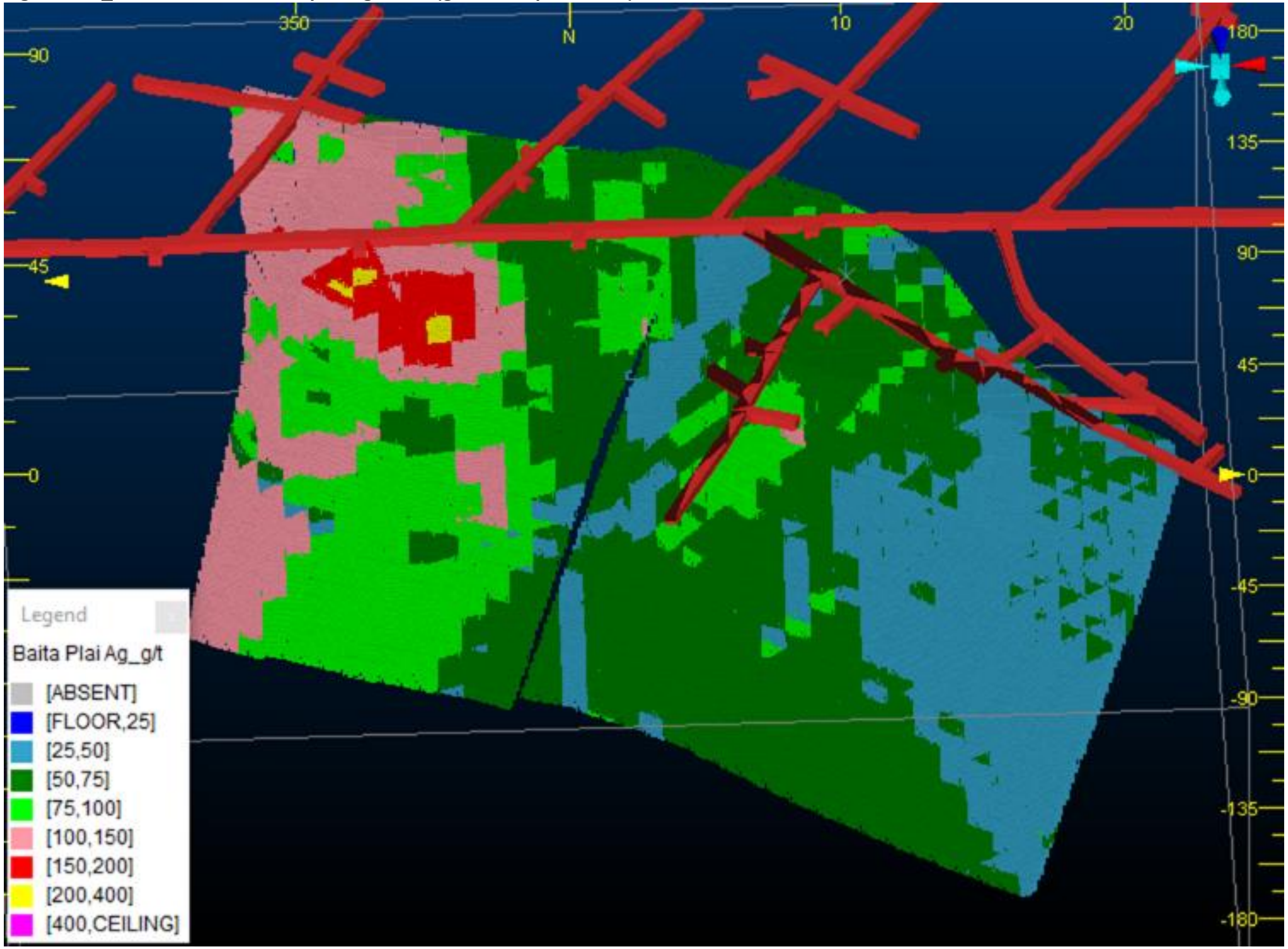

Figure 10: 3-Dimensional view depicting Gold (grammes per tonne)

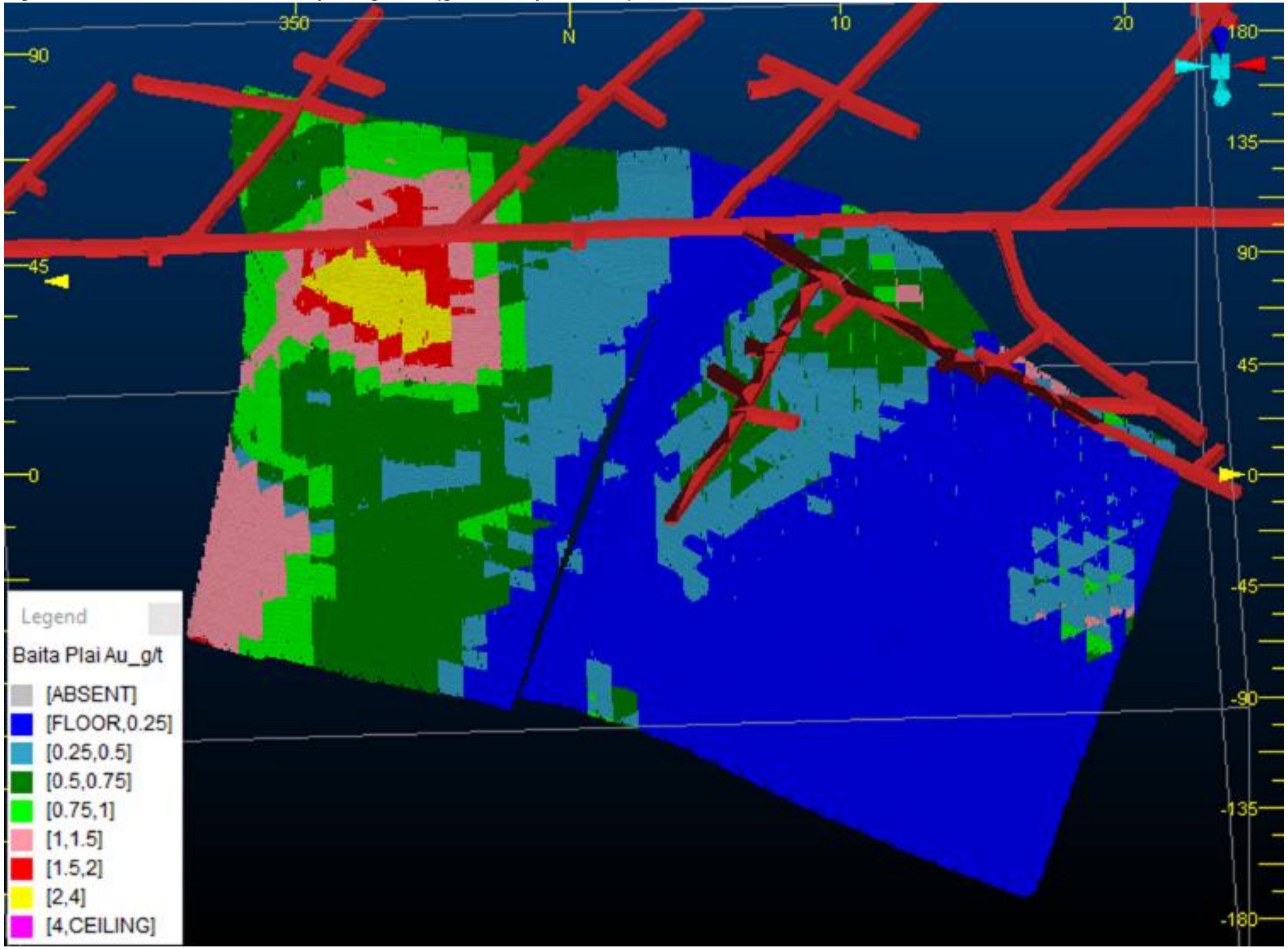

Figure 11: 3-Dimensional depicting the categorisation of mineral resources

Table 9: Total Mineral Resource Classification, Baita Plai Underground Mine, Antonio Skarn below 18 level on a copper equivalent basis and 100% basis.

Resource Category	Cut-Off	Tonnes	Grade								Content							
	CuEqv %	('000's)	EqvCu %	Cu%	Pb%	Zn%	Mo%	Bi%	Ag g/t	Au g/t	EqvCu (t)	Cu (t)	Pb (t)	Zn (t)	Mo (t)	Bi (t)	Ag (Koz)	Au (Koz)
Measured	0.00																	
Indicated	0.00	376.0	3.01	1.34	0.31	0.34	0.01	0.10	72.44	0.56	11 328	5 054	1 173	1 261	29	379	875.7	6.8
	0.75	**376.0**	**3.01**	**1.34**	**0.31**	**0.34**	**0.01**	**0.10**	**72.44**	**0.56**	**11 328**	**5 054**	**1 173**	**1 261**	**49**	**379**	**875.7**	**6.8**
	1.25	341.0	3.21	1.46	0.32	0.34	0.01	0.10	75.63	0.61	10 955	4 971	1 086	1 156	48	357	829.2	6.6
Measured + Indicated	0.00	376.0	3.01	1.34	0.31	0.34	0.01	0.10	72.44	0.56	11 328	5 054	1 173	1 261	29	379	875.7	6.8
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	1.25	341.0	3.21	1.46	0.32	0.34	0.01	0.10	75.63	0.61	10 955	4 971	1 086	1 156	48	357	829.2	6.6
Inferred	0.00	232.0	1.88	0.72	0.25	0.24	0.02	0.08	57.86	0.27	4 367	1 672	586	560	43	184	431.5	2.0
	0.75	**232.0**	**1.88**	**0.72**	**0.25**	**0.24**	**0.02**	**0.08**	**57.84**	**0.27**	**4 367**	**1 672**	**586**	**560**	**43**	**184**	**431.4**	**2.0**
	1.25	149.0	2.36	0.99	0.25	0.22	0.03	0.09	66.94	0.38	3 518	1 472	377	327	41	135	320.7	1.8
Total (Meas + Ind + Inf)	0.00	608.0	2.58	1.11	0.29	0.30	0.01	0.09	66.88	0.45	15 695	6 727	1 759	1 821	72	562	1 307.2	8.8
	0.75	**608.0**	**2.58**	**1.11**	**0.29**	**0.30**	**0.02**	**0.09**	**66.87**	**0.45**	**15 695**	**6 726**	**1 759**	**1 821**	**92**	**562**	**1 307.1**	**8.8**
	1.25	490.0	2.95	1.31	0.30	0.30	0.02	0.10	72.99	0.54	14 473	6 443	1 462	1 483	89	492	1 149.8	8.5

Table 10: Mineral Resource 80% Attributable to Vast Resources PLC

Resource Category	Cut-Off	Tonnes	Grade									Content							
	CuEqv %	('000's)	EqvCu%	Cu%	Pb%	Zn%	Mo%	Bi%	Ag g/t	Au g/t		EqvCu (t)	Cu (t)	Pb (t)	Zn (t)	Mo (t)	Bi (t)	Ag (Koz)	Au (Koz)
Measured	0.00																		
Indicated	0.00	300.8	3.01	1.34	0.31	0.34	0.01	0.10	72.44	0.56		9 062	4 043	938	1 009	23	303	700.5	5.4
	0.75	**300.8**	**3.01**	**1.34**	**0.31**	**0.34**	**0.01**	**0.10**	**72.44**	**0.56**		**9 062**	**4 043**	**938**	**1 009**	**39**	**303**	**700.5**	**5.4**
	1.25	272.8	3.21	1.46	0.32	0.34	0.01	0.10	75.63	0.61		8 764	3 976	869	925	38	285	663.3	5.3
Measured + Indicated	0.00	300.8	3.01	1.34	0.31	0.34	0.01	0.10	72.44	0.56		9 062	4 043	938	1 009	23	303	700.5	5.4
	0.75	**300.8**	**3.01**	**1.34**	**0.31**	**0.34**	**0.01**	**0.10**	**72.44**	**0.56**		**9 062**	**4 043**	**938**	**1 009**	**39**	**303**	**700.5**	**5.4**
	1.25	272.8	3.21	1.46	0.32	0.34	0.01	0.10	75.63	0.61		8 764	3 976	869	925	38	285	663.3	5.3
Inferred	0.00	185.6	1.88	0.72	0.25	0.24	0.02	0.08	57.86	0.27		3 494	1 338	469	448	35	147	345.2	1.6
	0.75	**185.6**	**1.88**	**0.72**	**0.25**	**0.24**	**0.02**	**0.08**	**57.84**	**0.27**		**3 493**	**1 338**	**469**	**448**	**35**	**147**	**345.1**	**1.6**
	1.25	119.2	2.36	0.99	0.25	0.22	0.03	0.09	66.94	0.38		2 815	1 178	301	261	33	108	256.5	1.5
Total (Meas + Ind + Inf)	0.00	486.4	2.58	1.11	0.29	0.30	0.01	0.09	66.88	0.45		12 556	5 381	1 407	1 457	58	450	1 045.8	7.0
	0.75	**486.4**	**2.58**	**1.11**	**0.29**	**0.30**	**0.02**	**0.09**	**66.87**	**0.45**		**12 556**	**5 381**	**1 407**	**1 457**	**74**	**450**	**1 045.7**	**7.0**
	1.25	392.0	2.95	1.31	0.30	0.30	0.02	0.10	72.99	0.54		11 579	5 154	1 170	1 186	71	393	919.9	6.8

Table 11: Exploration Targets, Baita Plai Underground Mine on a 100% basis.

Exploration Target	Range (Mt)		Range (Cu %)		Range (Pb %)		Range (Zn %)		Range (Ag g/t)		Range (Au g/t)	
Historic mineral Resource, Antonio Depth Extension, Baia Rosie Depth Extension.	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max
Total	**1.800**	**3.000**	**0.50**	**2.00**	**0.10**	**2.50**	**0.10**	**2.50**	**40.0**	**85.0**	**0.20**	**0.80**

Table 12: Exploration Target 80% Attributable to Vast Resources PLC

Exploration Target	Range (Mt)		Range (Cu %)		Range (Pb %)		Range (Zn %)		Range (Ag g/t)		Range (Au g/t)	
Historic mineral Resource, Antonio Depth Extension, Baia Rosie Depth Extension.	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max
Total	**1.400**	**2.400**	**0.50**	**2.00**	**0.10**	**2.50**	**0.10**	**2.50**	**40.00**	**80.00**	**0.20**	**0.80**

2.5. Conclusions

The Baita Plai underground mine has been refurbished and is currently producing. The mineral resource estimate has been designed to provide a JORC compliant mineral resource suitable for use in mine planning for the area being mined in the initial years of the mine.

Current drilling, historical drilling and historical geological sections indicates that the Antonio skarn is continuous beyond 18 level and to a t least a 20 – 21 level horizons. Exploiting the Antonio skarn at planned production capacity to a 21 level elevation would provide sufficient mineralisation for an approximate 7 to 8 year period and is the focus of a continuation of the incline access beyond 19 level together with a planned underground drilling program to these levels.

Additional underground diamond drilling is planned for the Antonio North skarn, situated approximately 120 meters to the north east of the Antonio skarn. The Antonio North skarn may provide a similar quantum of mineral resource in addition to the current mineral resources declared here.

The historic mineral resources are downgraded to an Exploration Target on the basis that portions of the documentation are not available and in line with the JORC code, the mineral resources must be deemed as mineable, both economic and physical. Investigations to the areas will be required to determine the infrastructure levels required to recommence activities in these areas. However, a significant portion of the Exploration Target is expected to be converted to a JORC compliant mineral resource in the coming months as these investigations are conducted and documentation becomes available as per official requests.

Significant upside to increase the mineral resources on adjacent skarns through the extension of development on 16 level, 17 level and 18 level northwards for approximately 650 meters to the number 2 Sub-Vertical # and underneath the Baia Rosie skarn. Mining activities on the Baia Rosie skarn ceased on 15 level, being the lowest horizontal development level from the Sub-Vertical 2#.

3. JORC Table 1 Compliance

Section 1 Sampling Techniques and Data

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

Criteria	JORC Code explanation	Commentary
Sampling techniques	*Nature and quality of sampling (e.g. cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under 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.*	Sampling was performed by splitting the core with a diamond saw. Sample intervals were determined by the presence of skarn mineralisation and/or alteration of the host dolomites and limestones. Historic channel samples from 18 level were included into the final database. Historic sampling was executed by means of chip sampling at 2.0-meter intervals along the strike of the orebody. The sample size was 10cm wide by 5cm deep by 100cm long. Historic assay results are recorded on plan with assay number and assay results. The assay results are further recorded in A3 ledgers of sampling records where transposing errors between plan and ledger can be checked. All sample preparation and the gold analyses were conducted at Rosia Montana. The gold assays utilised the ALS method AA23, a 30g FA-AA finish. The remaining assays, including the above limit samples, were carried out at the ALS Loughrea laboratories located in Loughrea, Galway, Ireland. The samples were analysed by means of ALS standard ME-ICP61, a 33 element four acid digest utilising Inductively Couple Plasma Atomic Emission Spectroscopy ("ICP-AES"). Over assays, assays above detection limits, were finished with the ALS method OG62
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.).*	Drilling was conducted underground by means of diamond drilling producing core of NQ size (48mm). Minor areas had to resort to a BQ bit size (37mm) due to poor ground conditions. Final depths were recorded according to the length of rods in the hole.
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.*	The total length of the core run is measured against the total of the lengths of the drill rods inserted into the hole. All drilling is supervised by an onsite geologist and the packing procedure or transfer of the core from core barrel to core tray is supervised by him / her. No relationship between core loss and grade has been observed.

Criteria	JORC Code explanation	Commentary
Logging	*Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.* *Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc.) photography.* *The total length and percentage of the relevant intersections logged.*	The historic channel samples have no detailed lithology recorded other than skarn or waste. The locations of the channel samples are clearly within the main skarn mineralized zone. Recent drilling has been logged for lithology, mineralisation type and basic structure. The full length of the core has been logged and all sulphide intersections are recorded in the lithological logs. Faulting is recorded with a view to support and update the structural model
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.*	All recent underground drilling has the core cut in half by a diamond cutter on site at the operation. All samples are bagged on site as split core and tagged with a unique identifier. The bagged samples are delivered directly to the on-site laboratory for assay or for dispatching to an external laboratory. Sample sizes are appropriate for the nature of the orebody. Historic channel samples were submitted as full 1.0m or 0.5m lengths.
Quality of assay data and laboratory tests	*The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.* *For geophysical tools, spectrometers, handheld XRF instruments, etc., the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.* *Nature of quality control procedures adopted (e.g. standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e. lack of bias) and precision have been established.*	The analytical method and laboratory procedures used on the historic channel samples are unknown. All sample preparation and the gold analyses were conducted at Rosia Montana. The gold assays utilised the ALS method AA23, a 30g FA-AA finish. The remaining assays, including the above limit samples, were carried out at the ALS Loughrea laboratories located in Loughrea, Galway, Ireland. The samples were analysed by means of ALS standard ME-ICP61, a 33 element four acid digest utilising Inductively Couple Plasma Atomic Emission Spectroscopy ("ICP-AES"). Over assays, assays above detection limits, were finished with the ALS method OG62 This is considered appropriate for this type of mineralisation. Blanks and standards were inserted into the sample chain on site at the mine on a basis of standards for gold approximately every 15 samples and varying standards for silver and base metals approximately every 15 samples. Blanks

Criteria	JORC Code explanation	Commentary
		were inserted throughout the sample chain on the basis of 1 blank sample for approximately every 15 samples submitted. ALS inserted laboratory blanks and standards into the sample stream and selected a number of assays for duplicate assay.
Verification of sampling and assaying	*The verification of significant intersections by either independent or alternative company personnel.* *The use of twinned holes.* *Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.* *Discuss any adjustment to assay data.*	The onsite management of the core drilling has been undertaken by the geology staff on site at the Baita Plai mine. The logging has been verified, checked and audited by the Chief Geologist in Romania. No twinned holes were drilled Data is recorded on paper logging sheets which is then entered into a database by the geologist at the mine. These entries are checked by the Chief Geologist based in Romania. Sample assays are received by the Chief Geologist, entered into the database by the geologist. Final sign off is provided by the Chief Geologist. All original paper logging sheets are filed for record keeping. Drill holes are imported into Datamine Studio RM to check the orientation and sampling records for errors. No adjustment to assay results are undertaken.
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.*	Original mine plans for the underground workings are available with the positions of the underground channel samples indicated. These have been captured into digital format elevated according to the survey grade reference line to allow for the determination of the channel sample positions. The recent drilling has been coordinated through underground measurements referencing the plan positions. The grid system in use is Stereo 70 The elevation of the drill holes has been determined by survey elevations from underground plans referenced on site to measurements against the survey grade control line.
Data spacing and distribution	*Data spacing for reporting of Exploration Results.* *Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.* *Whether sample compositing has been applied.*	The historic channel samples were undertaken on a 2.0m strike spacing with a maximum length of 1.0m and a minimum length of 0.5m. The recent drilling was undertaken on an approximate line spacing of 15m – 20m depending on the access in the underground development ends. The drill hole sampling was conducted at a maximum interval of 1.0m and a minimum sampling interval 0.4m. The data spacing and the high level of geological knowledge is sufficient to establish the geological continuity on the property.

Criteria	JORC Code explanation	Commentary
		Composites of 1.0m length have been applied to the sample assay results in the mineral resource estimation.
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.*	The historic channel sampling is at approximate right angles to the strike of the orebody considering that the skarn mineralisation is irregular in shape. The diamond drilling intersects the skarn mineralisation at varying degrees due to the limited positions available for drill platforms and the irregular shape of the skarn mineralisation. The general orientation and shape of the orebody is able to be defined due to the extensive mining that has taken place above 18 level, the site of the inclined drillholes. No bias has been perceived in the sampling relating to the orientation of sampling to the mineralized zones.
Sample security	*The measures taken to ensure sample security.*	Samples are bagged on site with a sample tag inserted into the bag and closed with a zip lock tie. Samples are stored in a locked storage facility on site at the mine until transported to the laboratory. Samples sent to external laboratory are dispatched with a weigh bill detailing number of samples, contact person and sample number lists.
Audits or reviews	*The results of any audits or reviews of sampling techniques and data.*	There have been no third-party reviews of the sampling techniques currently

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 for Mineral Resource estimation purposes.* *Data validation procedures used.*	Data has been validated on site in Romania by the Mine Geologist and the Chief Geologist within Romania. Data postings have been used to verify positions. All data is imported into a Datamine Studio RM drill hole database which reports any 'From – To' errors together with any missing assay or lithological information. The original data as received from ALS laboratories are imported into an Access database.
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.*	The site has been visited on numerous since 2016. Due to the Romanian secrecy laws as detailed in the body text, initial access to information was limited.

Criteria	JORC Code explanation	Commentary
		With the granting of the association license, access to data has become easier although still subject to the in-country laws regarding the reproduction of such data.
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.*	The confidence in the overall interpretation of the shape and orientation of the Antonio is high due to the extensive mining that has taken place. The Antonio skarn has been mined continuously from surface down to 18 level. A number of geological sections depicting the major faults of the area between 16 level and 18 level and where able to be interpreted in conjunction with the drilling results, have been utilized in creating a moderate structural model for the Antonio skarn below 18 level. A mineralisation facies model is required, and the geologists are undertaking a relogging of the drill core to determine approximate percentages of the main copper bearing minerals. During the mineral resource estimation, it became apparent that multiple populations existed within the data set. This is in all likelihood related to the percentages of chalcopyrite, bornite and chalcocite. This was handled through the use of multiple cut-off grade values in conjunction with Multiple Indicator Kriging
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.*	The outline of the Antonio skarn is fairly regular when viewed in its entirety on a longitudinal section. Locally the skarn can increase or decrease in width with the edges along strike showing a thinning. The mineral resource that this document refers is for the area from 18 level to approximately 65m below 18 level. The mineralisation appears to be fairly stable at approximately 200m long along strike and ranging in width from a few meters on the strike limits up to 20m in thickness in the central portions. Dips of the skarn vary from 40 degrees too steep at 80 degrees
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.*	Multiple Indicator Kriging was selected as the method for grade interpolation as multiple inflection points were observed on log-normal probability plots of the assay data. No grade capping or cutting was applied to the 1.0-meter assay composites. Historical mineral estimates for the area considered in this mineral resource estimation are limited to a mineral resource block extending 12.5m. The historic estimate is moderately comparable to the current mineral resource estimate although gold and silver values are not reported for the historic mineral resource block.

Criteria	JORC Code explanation	Commentary
	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.*	Block sizes are 5.0m x 5.0m x 2.5m compared to drill hole spacing of 15m – 20m and 1.0m downhole composites. The geological interpretation controlled the mineral resource estimate by constraining the mineralized zones into solid wireframes. Multivariate analyses show a strong correlation between the copper and gold values with a weaker association with bismuth. Silver a lead values were moderately associated while zinc values show no correlation with other elements. The decision not to undertake grade capping or cutting was influenced by initial attempts at estimation using Inverse Distance Squared and Ordinary Kriging methods. The preliminary model validations show an inability to honour spatially related higher-grade samples after attempting grade capping at the 99th,98th and 95th percentiles. Examinations of the ranges of inflection points on a log-normal probability plot revealed defined inflections at lower, medium and higher grades. This has been related to the type of copper bearing mineral present. The mineral resource model has been validated by comparing the means and standard deviations to the composite data set. From mining history and additional historic sampling information which cannot be spatially located due to the absence of co-ordinates on plans, the general grade distribution of the orebody can be defined. The mineral resource model conforms to these checks and parameters Swath plots on 10-meter-wide slices through the mineral resource model and the composite data set were conducted for the X, Y and Z directions.
Moisture	*Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.*	All estimations are reported as a dry tonnage.
Cut-off parameters	*The basis of the adopted cut-off grade(s) or quality parameters applied.*	The cut-off grades for the Multiple Indicator Kriging are as derived from a log-normal probability plot Cut-off grades for mineral resource reporting were derived by calculating a copper equivalent grade for gold, silver, copper, lead and zinc. The planned operating costs were used to derive the total cost for the mine including overheads, royalties and other agreements.

Criteria	JORC Code explanation	Commentary
Mining factors or assumptions	*Assumptions made regarding possible mining methods, minimum mining dimensions and internal (or, if applicable, external) mining dilution. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential mining methods, but the assumptions made regarding mining methods and parameters when estimating Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the mining assumptions made.*	Mining is intended to be converted from an overhand cut and fill to an underhand benching method in order to eliminate the need for waste mining to serve as backfill material.
Metallurgical factors or assumptions	*The basis for assumptions or predictions regarding metallurgical amenability. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential metallurgical methods, but the assumptions regarding metallurgical treatment processes and parameters made when reporting Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the metallurgical assumptions made.*	Processing records from the mine for the period 1999 – 2012 were examined on site at the mine and the initial parameters were derived from these documents. During 2020, bulk samples from underground were sent to Grinding Solutions (UK) where a mineralogical study and metallurgical test work was undertaken. The test work proved the ore is amenable to flotation and generally is 5% - 10% better than the historic plant records.
Environmental factors or assumptions	*Assumptions made regarding possible waste and process residue disposal options. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider the potential environmental impacts of the mining and processing operation. While at this stage the determination of potential environmental impacts, particularly for a greenfields project, may not always be well advanced, the status of early consideration of these potential environmental impacts should be reported. Where these aspects have not been considered this should be reported with an explanation of the environmental assumptions made.*	There is a current Tailings Storage Facility on site available for mine use. Waste generated from underground development is hoisted to 0 level and trammed on surface to a surface Waste Rock Dump facility.
Bulk density	*Whether assumed or determined. If assumed, the basis for the assumptions. If determined, the method used, whether wet or dry, the frequency of the measurements, the nature, size and representativeness of the samples.* *The bulk density for bulk material must have been measured by methods that adequately account for void spaces (vugs, porosity, etc.), 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.*	Historic bulk density information exists for the Antonio, Marta and Pregna skarns at various levels. Bulk density tests were conducted on drill hole samples at the mine laboratory. Tests on the hanging wall dolomites, mineralized skarn and footwall limestone were conducted and compare favourably. The bulk density rest results reflect a wide range and correlate directly to the amount of sulphide mineralisation present in the sample.
Classification	*The basis for the classification of the Mineral Resources into varying confidence categories.*	Mineral resources were classified according to the distance of the sample from the search volume center. The search volume used for all estimations was an isotropic sphere of 40 meters.

Criteria	JORC Code explanation	Commentary
	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.*	Measured resources were assigned where the transformed distance was 25% or less of search volume number 1, an effective distance of 10 meters and with the number of samples used in the estimate >25 samples. Indicated mineral resources were assigned where the transformed distance was 50%% or less of search volume 1, an effective distance of 20 meters and with the number of samples used in the estimate >15 samples. The balance of the mineral resource block model for search volumes 1, 2 and 3 were assigned as Inferred mineral resources. The development of certain copper bearing minerals such as bornite and chalcocite heavily influence the grade estimates and the continuity or development of these higher-grade copper bearing minerals may be erratic.
Audits or reviews	*The results of any audits or reviews of Mineral Resource estimates.*	As yet there have been no third-party audits or reviews of the mineral resource estimates
Discussion of relative accuracy/ confidence	*Where appropriate a statement of the relative accuracy and confidence level in the Mineral Resource estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the resource within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors that could affect the relative accuracy and confidence of the estimate.* *The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used.* *These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.*	The mineral resource block model has been examined in section with drill holes plotted for visual comparison. Swath plots along the X, Y and Z axes have been undertaken and compare well. The mineral resource is a global resource estimate and locally resource estimates may vary in a negative or positive manner. The mineral estimates correlate with available assay data between 16 level and 18 level on the Antonio skarn. This data, bar the level sampling on 18 level has not been included in the assay data used in compiling the mineral resource estimate. The data from the stopes between the levels is not coordinated and unable to be spatially orientated with any degree of confidence along the Z axis. Level sampling data exists for 16 level and 17 level elevations and is able to be coordinated. It has not been included in the assay data set used for mineral resource estimation as the inclined distance is in excess of 50 meters and these earlier sample records are not able to cross checked with sample assays recorded in the A3 assay ledgers at the mine Utilizing all the sample data present, a grade distribution section can be inferred where the higher grade copper values are present on the western portion of the orebody grading towards more polymetallic (Cu-Pb-Zn) in the central portions with improved molybdenum grades on the eastern margin.

Criteria	JORC Code explanation	Commentary
		The on mine assay plans record gold and silver sporadically but high correlation between gold and silver has been ascertained.

4. Glossary

Archaean	The earlier part of Precambrian Time, from approximately 3.8 to 2.5 billion years ago, corresponding to Achaean rocks.
Arsenopyrite	A tin-white to steel grey orthorhombic mineral: FeAsS, which constitutes the principal ore of arsenic.
Ascharite	A mineral of the class of borates, Mg2(OH)[V2O4(OH)]
Assay	The chemical analysis of rock or ore samples to determine the proportions of metals.
Adit	A sub-horizontal mine entrance driven into the side of a hill.
Chalcopyrite	An important ore of copper ($CuFeS_2$)
Cut-off grade	Lowest grade of mineralised material considered to be economically viable to extract.
Disseminated Sulphide	A form of sulphide mineralisation where the sulphides are scattered through the host lithology
Dip	The angle that a surface, bedding or structure makes with the horizontal measured perpendicular to strike or down its steepest slope.
Flotation	A method of concentrating minerals whereby the mineral attaches to bubbles blown through a mixture of ground ore, water and a frothing agent and then rises to form a surface froth.
Footwall	In metal mining, the part of the country rock that lies below the ore deposit. Also, the underlying side of a fault, orebody, or mine working; esp. the wall rock beneath an inclined vein or fault.
Galena	An important ore of lead (PbS)
Grade	The relative quantity or percentage of ore mineral content in an orebody.
Hangingwall	The overlying side of an orebody, fault, or mine working, esp. the wall rock above an inclined vein or fault.
Granite	A light-coloured, course-grained igneous rock.
Igneous	Rock or material solidified from molten or partially molten material.
Indicated Resource	An 'Indicated Mineral Resource' is that part of a Mineral Resource for which tonnage, densities, shape, physical characteristics, grade and mineral content can be estimated with a reasonable level of confidence. It is based on exploration, sampling and testing information gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drillholes. The locations are too widely or inappropriately spaced to confirm geological and/or grade continuity but are spaced closely enough for continuity to be assumed.
Inferred Resource	An 'Inferred Mineral Resource' is that part of a Mineral Resource for which tonnage, grade and mineral content can be estimated with a low level of confidence. It is inferred from geological evidence and assumed but not verified geological and/or grade continuity. It is based on information gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drillholes which may be limited or of uncertain quality and reliability.
Interpolate	In the mathematical field of numerical analysis, interpolation is a method of estimating new data points within the range of a discrete set of known data points.
Intrusion	A unit of igneous rock, which is emplaced within pre-existing rocks as magma and then solidifies below surface.
JORC Code	The Australasian Code for Reporting of Mineral Resources and Ore Reserves prepared by the Joint Ore Reserves Committee of the Australian Institute of Mining and Metallurgy, Australian Institute of Geoscientists and Mineral Council of Australia, as amended.
Kotoite	A mineral Mg3(BO3)2 consisting of a borate of magnesium
Kriging	Best linear unbiased estimate. In particular kriging employs the variogram model as the weighting function because of this kriging weights are assigned in a way that reflects the spatial correlation of the grades themselves.
Massive Sulphide	A compact form of ore sulphides
Mafic	Said of igneous rock composed mainly of ferromagnesian (dark-coloured) minerals.
Measured Resource	A 'Measured Mineral Resource' is that part of a Mineral Resource for which tonnage, densities, shape, physical characteristics, grade and mineral content can be estimated with a high level of confidence. It is based on detailed and reliable exploration, sampling and testing information gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drillholes. The locations are spaced closely enough to confirm geological and grade continuity.
Metamorphism	The mineralogical, chemical and structural adjustment of solid rocks in response to physical and chemical conditions which differ from the conditions under which the rocks originated.

Mesozoic	An era comprising the Triassic, Jurassic and Cretaceous periods from 245 – 65 million years ago.
Mineralisation	The process or processes by which a mineral or group of minerals are introduced to a host rock.
Mineral Reserve	Is the economically mineable material derived from a Measured and/or Indicated Mineral Resource.
Mineral Resource	A 'Mineral Resource' is a concentration or occurrence of material of intrinsic economic interest in or on the Earth's crust in such form, quality and quantity that there are reasonable prospects for eventual economic extraction. The location, quantity, grade, geological characteristics and continuity of a Mineral Resource are known, estimated or interpreted from specific geological evidence and knowledge. Mineral Resources are sub-divided, in order of increasing geological confidence, into Inferred, Indicated and Measured categories.
Ordovician	A sub-era of the Palaeozoic between 510 – 439 million years ago
Ore	The naturally occurring material from which a mineral(s) can be extracted at a reasonable profit.
Orebody	A continuous well-defined mass of material to sufficient ore content to make extraction economically feasible.
Polymetallic	An ore containing several different metals
Pyrite	A common, pale bronze or brass yellow mineral, FeS_2.
Rezbanyite	A mineral $Pb_3Cu_2Bi_{10}S_{19}$ consisting of lead, copper, and bismuth sulfide and occurring in metallic-gray granular masses (specific gravity 6.1–6.4)
Sampling	Taking small representative pieces of rock or material along exposed mineralisation or diamond drill core for assay.
Sedimentary	Refers to rocks formed by deposition of detrital or chemical material that originates form the weathering of rock, and is transported from a source to a site of deposition.
Sphalerite	An important ore of zinc (ZnS)
Strike	Direction along slopping strata or surface, which is at right angles to dip.
Sulphide	A chemical compound of sulphur.
Szaibelyite	A mineral $MgBO_2OH$ consisting of a magnesium borate that occurs in nodular masses of white acicular crystals
Tetrahedrite	An end member of a series of solid solutions into which arsenic enters to form tennantite: mined as an ore of copper and silver
Ultramafic	An igneous rock composed of predominantly ferromagnesian minerals and no free quartz. Silica content is less than 45 percent.
Volcanogenic	Of a volcanic origin