

Vast Resources plc / Ticker: VAST / Index: AIM / Sector: Mining

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Vast Resources plc

("Vast" or the "Company")

JORC Compliant Resource Published for Producing Manaila Polymetallic Mine, Romania

Vast Resources plc, the AIM-listed mining company with operations in Romania and Zimbabwe, is pleased to announce the maiden JORC Compliant Mineral Resource Estimate for the producing Manaila Polymetallic Mine ("Manaila" or "MPM") in Romania.

Overview

Maiden JORC Compliant Mineral Resource Estimate updating the previous resource estimated under the Russian Code:

Total open pit Mineral Resource (Indicated & Inferred) of 2.6Mt at a grade of 1.0% copper ('Cu'), 0.4% lead ('Pb') and 0.9% zinc ('Zn') at a 0.25% Cu cut-off

Total underground Mineral Resource (Indicated & Inferred) of 310,000t at a grade of 1.7% Cu, 0.4% Pb and 0.5% Zn at a 1.00% Cu cut-off

Exploration Target defined for:

Open pit of 4.45Mt-11.88Mt with grades up to 2.3% Cu, 0.5% Pb and 1.1% Zn

Underground of 5.92Mt-15.78Mt with grades up to 2.6% Cu, 2.0% Pb and 2.6% Zn

Current JORC compliant Mineral Resources do not include gold and silver mineralisation which may provide additional upside

Roy Pitchford, Chief Executive Officer of Vast, commented:

"Today's publication of the maiden JORC compliant Mineral Resource statement is another positive milestone at our Manaila Mine where the performance has improved significantly over the past four weeks, underpinned by the success of the metallurgical optimisation work completed during the June quarter. This work has delivered significant, consistent increases in MPM's plant yields and grades which will enable Vast to develop a sustainable and profitable mine at Manaila. This JORC Mineral Resource estimate at MPM will augment this work by providing an internationally recognised and accepted evaluation tool through which to improve grade control by utilising modern methods for mine planning and scheduling. The Mineral Resource statement further reinforces our confidence in the MPM operation as we look now to not only improving quarter on quarter results, but an operation with the long term potential to yield significant returns for our investors and stakeholders."

JORC Mineral Resource Estimate

A JORC Compliant Mineral Resource estimate has been compiled for the area delineated by the 1.39 square kilometre ("km²") exploration perimeter of MPM. Within this exploration licence perimeter the current mining licence boundary is 67,500 square meters ("m²") in extent.

A full geological model has been constructed, constraining the mineralised zone to widths and extents as defined by surface drilling, underground drilling and underground development.

A combination of Ordinary Kriging ("OK") and Inverse Distance Squared ("ID²") was carried out, interpolating values for copper, lead and zinc into a three-dimensional constrained geological block model. Density values from historical density measurements undertaken in Romania, and

density measurements in use at the operating MPM mine, were assigned to the block model for heavy and moderate weathering profiles and fresh material.

Mineral resource categorisation was undertaken whereby modelled mineralised zones, which could be defined from historical drilling but were lacking sufficient assay data, were assigned to the Exploration Target category and these are reported separately. These zones were interpolated utilising ID².

Mineralised zones, which contained sufficient data from surface drilling, underground drilling and underground channel sampling, were typically modelled with OK. The mineral resources within these mineralised zones were categorised based on the number of samples within various search volumes and on the kriging efficiency obtained, together with a geological confidence applied to each mineralised zone.

The mineral resource estimate has been subdivided into an open pit mineral resource and an underground mineral resource classification. The cut-off point between open pit and underground mining was determined by running a Lerch-Grossman ("LG") pit optimisation based on the prevailing metal prices and the current operational efficiencies being achieved at MPM. The depth of LG pit shells extended to 125 metres below the topographic surface.

Open pit mineral resources were subsequently defined down to a depth of 125 metres below surface and are reported at an in-situ mining grade cut-off of 0.25% Cu. Copper is deemed the main mineral of interest and all mineral resources are based on cut-off grades applied to copper only. Table 1 provides the mineral resources determined to be fresh sulphide open pit mineral resources.

Table 1: Open Pit Mineral Resource Estimate for the Manaila Polymetallic Mine, July 2016.

Category (Open Pit)	Cu % cut-off	Tons (Mt)	Cu Metal (t)	Pb Metal (t)	Zn Metal (t)	Cu %	Pb %	Zn %
Measured	0.25%	-	-	-	-	-	-	-
Indicated	0.25%	1.160	12,760	5,400	13,000	1.1	0.5	1.1
Meas + Ind	0.25%	1.160	12,760	5,400	13,000	1.1	0.5	1.1
Inferred	0.25%	1.440	12,800	5,400	9,500	0.9	0.4	0.7
Meas + Ind + Inf	0.25%	2.600	25,560	10,800	22,500	1.0	0.4	0.9

**as at 31 July 2016 (topographic surface)*

** to a maximum depth of 125m below topographic surface*

** @ 0.25% Cu cut-off grade*

Underground mineral resources were subsequently defined from below a depth of 125 metres below surface to the limits of the mineralised zones and are reported at an in-situ mining grade cut-off of 1.00% Cu. Copper is deemed the main mineral of interest and all mineral resources are based on cut-off grades applied to copper only. Table 2 provides the mineral resources determined to be underground mineral resources.

Table 2: Underground Mineral Resource Estimate for the Manaila Polymetallic Mine, July 2016.

Category (U/Ground)	Cu % cut-off	Tons (Mt)	Cu Metal (t)	Pb Metal (t)	Zn Metal (t)	Cu %	Pb %	Zn %
Measured	1.00%	-	-	-	-	-	-	-
Indicated	1.00%	0.100	1,500	200	800	1.5	0.2	0.8

Meas + Ind	1.00%	0.100	1,500	200	800	1.5	0.2	0.8
Inferred	1.00%	0.210	3,780	840	840	1.8	0.4	0.4
Meas + Ind + Inf	1.00%	0.310	5,380	1,040	1,640	1.7	0.4	0.5

*as at 31 July 2016 (topographic surface)

* from a depth of 125m below topographic surface

* @ 1.00% Cu cut-off grade

An exploration target has been defined over the remainder of the exploration perimeter. There is sufficient information available, from existing surface drill holes and literature regarding the development of sulphide mineralisation in the area surrounding MPM to warrant the development of a staged exploration programme to advance these areas into a mineral resource category in the future. Table 3 provides the exploration target potential for open pit exploration targets and Table 4 for underground exploration targets. All exploration targets are reported with no cut-off grade applied.

Table 3: Open Pit Exploration Target at Manaila Polymetallic Mine, July 2016.

OPEN PIT Exploration Target	Tons (Mt)		Grade (%)					
	Minimum	Maximum	Cu% Min	Cu% Max	Pb% Min	Pb% Max	Zn% Min	Zn% Max
Weathered Zone	0.320	0.860	0.8	2.0	0.2	0.5	0.3	0.8
Fresh Zone	4.130	11.020	0.9	2.3	0.2	0.5	0.4	1.1
Total	4.450	11.880	0.8	2.3	0.2	0.5	0.4	1.1

*as at 31 July 2016 (topographic surface)

* to a maximum depth of 125m below topographic surface

Table 4: Underground Exploration Target at the Manaila Polymetallic Mine, July 2016.

UNDERGROUND Exploration Target	Tons (Mt)		Grade (%)					
	Minimum	Maximum	Cu% Min	Cu% Max	Pb% Min	Pb% Max	Zn% Min	Zn% Max
Weathered Zone	-	-	-	-	-	-	-	-
Fresh Zone	5.920	15.780	1.0	2.6	0.7	2.0	1.0	2.6
Total	5.920	15.780	1.0	2.6	0.7	2.0	1.0	2.6

*as at 31 July 2016 (topographic surface)

* from a depth of 125m below topographic surface

History, Exploration and Mining

In 1972, the Romanian state exploration company began initial exploration activities, geochemical soil sampling and widely spaced surface diamond drilling at MPM. This led to the identification of Kuroko type volcanogenic sulphide mineralisation within the area similar to the nearby Fundu Moldovei copper mine.

Drilling along the southern boundary of the MPM licence area revealed polymetallic massive and disseminated sulphides. This resulted in 6,418km of underground development along two levels, namely level 4 and level 7. Underground diamond drilling was conducted along the full length of the two levels and channel sampling was conducted where intersections with the mineralised zone took place.

Some trial underground mining took place to generate bulk sample material for metallurgical test work, both on a laboratory scale and pilot plant scale. A trial run of ore processing took place at the nearby Fundu Moldovei copper mine to assess the concentrate obtainable under true plant conditions.

The mine began operations in 1999 when the state owned mining company Remin ("Remin") ran the operations until 2006. In 2006, Remin was placed into liquidation and the assets, including the mining license, transferred to another state owned mining company Mina Bucovina ("Bucovina") who operated the mine until 2009. During 2009, Bucovina was placed into liquidation.

The mining licence was acquired by public auction by the Sinarom Mining Group ("SMG") in 2012. SMG operated the mine until July 2015 when Vast acquired a 50.1% stake in the company and assumed operational control.

Since August 2015, Vast has drilled a total of 14 surface diamond drill holes in the immediate vicinity of the current open pit operations in order to verify the geological model, and thereby allow for the inclusion of the historical drill hole assays and underground channel assays into the assay database.

Vast has sent a bulk sample from the open pit to the laboratories of SGS in the United Kingdom for flotation kinetic test work in order to optimise the quality of the copper concentrate, and to outline the chemical flotation recipe required to depress zinc in the copper concentrate. In addition, test work to subsequently reactivate and float the zinc into a separate zinc concentrate was undertaken. The test work was successful and the implementation in the plant has proved to be a success as well.

Geology

Romania consists of four major areas of Mesozoic and older rocks, the southern Carpathians, eastern Carpathians, Apuseni Mountains, and Dobrogea. The eastern Carpathians consist of two main paleogeographic and structural units, which are, from west to east, the Crystalline-Mesozoic zone ("CMZ") and the outer flysch zone. The CMZ in turn is made up of four main lithostratigraphic groups, namely the Bretila Group, Tulghes Group, Negrisoara Group and the Rebra Group.

The local geology at MPM comprises lithologies of the lowermost units of the TG4 and the uppermost units of the TG3 formations of the Tulghes Group. They comprise the following;

- TG4 Formation
- Basque Formation
- TG3 Formation
 - Fundu Moldovei Member
 - Morosan Member

The Morosan Member of the TG3 formation is a rhyolitic volcanosedimentary sequence comprising alternating sequences of quartz sericite schists -\+ chlorite -\+ graphite and metamorphosed rhyolites. The top of the sequence is marked by the development of a chlorite sericite schist with porphyroblasts of albite. The contact between the Morosan Member and the overlying Fundu Moldovei Member marks the development of the sulphide mineralisation at MPM

The Fundu Moldovei Member of the TG3 Formation is represented by a predominantly metamorphosed rhyolites and quartz-sericite schists which vary in thickness. The top of the TG3 Formation is marked by the development of the polymetallic mineralisation associated with the mineralisation located within the Putnei - Prasca valley (Lesu Ursului, Fundu Moldova). This mineralised zone occurs along the northern boundary of the current exploration perimeter.

The Basque Member of the TG4 Formation is present in the north western of the exploration perimeter and is comprised of a cyclic alternation of various blastodetrital quartzites and phyllitic lithologies. Thin beds of acid metatuffs occur in the upper portions and indicate late stage extrusive rhyolitic volcanism. The TG4 Formation represents detrital material deposited during and after the waning stage of volcanism.

Competent Person's Review:

This announcement has been reviewed by Mr Craig Harvey, Group Chief Geologist at Vast, and a member of the Geological Society of South Africa and the Australian Institute of Geoscientists. Mr Harvey meets the definition of a "qualified person" as defined in the AIM Note for Mining, Oil and Gas Companies.

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Glossary

Albite	End member of the plagioclase feldspars (NaAlSi ₃ O ₈)
Assay	The chemical analysis of rock or ore samples to determine the proportions of metals.
Blastodetrital	Rock fragments that have been weathered from pre-existing rocks and the original texture has been completely or partially replaced by secondary crystals as a result of metamorphism
Chlorite	A group of phyllo-silicates found in metamorphic, sedimentary and altered igneous rocks
Cut-off grade	Lowest grade of mineralised material considered to be economically viable to extract.
Diamond Drilling	A means of drilling into rock using a diamond tipped cutting bit to produce a continuous length of core cut from the rock.
Disseminated	A form of sulphide mineralisation where the sulphides are scattered

Sulphide	through the host lithology
Exploration Target	An Exploration Target is a statement or estimate of the exploration potential of a mineral deposit in a defined geological setting where the statement or estimate, quoted as a range of tonnes and a range of grade (or quality), relates to mineralisation for which there has been insufficient exploration to estimate a Mineral Resource.
Flysch	Sedimentary deposits deposited by turbidity currents arising from the erosion of rapidly forming mountain belts.
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 drill holes. 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 drill holes 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.
Inverse Distance Squared	A type of deterministic method for multivariate interpolation with a known scattered set of points. The assigned values to unknown points are calculated with a weighted average of the values available at the known points.
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.
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.
Lerch-Grossman	An algorithm developed by Helmut Lerchs and Ingo Grossmann to determine economic parameters
Kuroko-type	A type of volcanic associated massive sulphide deposit formed in a back arc basin environment
Massive Sulphide	A compact form of ore sulphides
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 drill holes. The locations are spaced closely enough to confirm geological and grade continuity.

Metatuff	A light, porous rock formed by consolidation of volcanic ash which has been affected by metamorphism
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.
Polymetallic	An ore containing several different metals
Psammitic	A metamorphic rock rich in quartz
Phyllitic	Fine grained white mica, sericite, aligning with perfect foliation
Rhyolitic	Having a composition and texture similar to rhyolite, a fine-grained igneous rock rich in silica. The volcanic equivalent of granite.
Sampling	Taking small representative pieces of rock or material along exposed mineralisation or diamond drill core for assay.
Schist	A rock exhibiting a foliation of minerals and / or representing a grade of metamorphism
Sericite	A fine grained variety of the mica muscovite
Sulphide	A chemical compound of sulphur.
Volcanogenic	Of a volcanic origin

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

****ENDS****

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