



Polish Association of Mineral Asset Valuers

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Polish
CODE FOR THE VALUATION OF MINERAL
ASSETS
(The POLVAL Code)

prepared by

A Special Committee of the Polish Association of Mineral Asset Valuers for Development
of the POLVAL Code

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Note: All phrases and terms in the text of this Code which are defined in paragraph (D), start with capital letters.

(A) THE NEED FOR A CODE, SOURCE MATERIALS

(A1) INTRODUCTION

- (A1.01) Mineral Assets and Mineral Resources and/or Reserves associated with them constitute a Value which may be expressed in monetary terms and may be a subject of trade at the market.
- (A1.02) Mineral Deposit Valuation is a separate area of expertise. The Value of a Mineral Deposit can be determined for various purposes. The most common include:
- acquisition and sales transactions,
 - mergers,
 - pricing of initial public offering of stock,
 - listing support,
 - additional information for financial statements,
 - support for property agreements,
 - determination of vendor considerations,
 - litigation,
 - expropriation compensation,
 - income tax matters,
 - insurance claims,
 - determination of Royalty and Concession Payments,
 - mining annuity,
 - bank loan security, etc.
- (A1.03) Correct Valuation of Mineral Assets, including Mineral Deposits and Anthropogenic Deposits, is a highly specialized, multistage process. Mineral Assets Valuations are carried out at various stages of prospecting, exploration and mining activities. The work demands extensive knowledge and experience in a number of fields – particularly in geology, mining and economics.
- (A1.04) In developed mining countries the rules governing Mineral Asset Valuation are provided as sets of guidelines and standards (Codes). The codes standardize the processes of valuation and certification of Qualified Valuers. The rules and guidelines enforce on Valuers high ethical and service quality standards. Compliance with the standards and high quality of the work is ensured by Independent self-regulatory Professional Organisations. Moreover, specialists in Mineral Asset Valuation from many countries work within the framework of the International Valuation Standards Committee, IVSC. The work on formulating the requirements and guidelines is done by the Extractive Industries Task Force. Valuation Codes existing in other countries are briefly described in paragraph (A2).
- (A1.05) There are no laws in Poland regulating the aspects of Mineral Asset Valuation process, including the requirements for relevant Qualifications. Mineral Asset Valuation is frequently done by incompetent persons and the results are often biased. This Code came into being out of concern that Mineral Asset Valuation be truly carried out by Competent, appropriately qualified individuals so that the resulting Reports will be reliable, thorough, understandable and include all the Material

information required by investors and their advisers when making investment decisions.

- (A1.06) The purpose of developing the POLVAL Code was to provide within one document a set of fundamental Standards and supporting Guidelines regarding good professional practice to assist Valuers in professional carrying out of Mineral Asset Valuations.
- (A1.07) A Mineral Deposit is the basis of any mining activity – its the first and principal Asset from the many available to a Tenement Holder. This Code, regulating Mineral Asset Valuation, introduces the term of „Mineral Assets” (MA), till now unknown in the Polish specialist terminology. Its definition can be found in paragraph (D).
- (A1.08) The final text of this document was prepared to comply with the legislature in force as on 10 May 2008.

(A2) MINERAL VALUATION CODES IN OTHER COUNTRIES

(A2.01) The VALMIN Code

The Australian „Code for the Technical Assessment and Valuation of Mineral and Petroleum Assets and Securities for Independent Expert Reports” (VALMIN Code) is one of the most widely known Mineral Asset Valuation Standards (first edition – February 1995).

The VALMIN Code is respected internationally by most professionals dealing with Mineral Asset Valuation. The original intention of the originators of the VALMIN Code was to prepare a set of standards for Valuation of Mineral Assets belonging to mining and exploration companies in order to secure owner rights within the scope of the Australian stock exchange regulations, and to secure rights of the investors dealing in shares of mining and exploration companies at the Australian financial market. The resultant document turned out to be more universal than expected and till now is used by mining asset valuation practitioners – members of the Australasian Institute of Mining and Metallurgy (AusIMM) – when addressing a wide range of issues requiring that Mineral Asset Valuation be carried out.

Application of the VALMIN Code is mandatory by AusIMM members when involved in the preparation of Public Independent Expert Reports relating to mineral and petroleum assets required by legislation such as the Corporations Act or by the Listing Rules of the ASX. The requirement the Code is to be adhered to is supported by many other institutions and organisations, including the Australian Stock Exchange, the Australian Securities & Investment Commission, the Institute of Chartered Accountants in Australia and the Australian Institute of Company Directors.

(A2.02) The CIMVAL Code

The Canadian „Standards and Guidelines for Valuation of Mineral Properties” – CIMVAL Code, was developed by a Special Committee on Valuation of Mineral Properties (CIMVal) and introduced in 2003. Its philosophy is identical to that of the VALMIN Code: it demands full transparency and availability of all Material information related to the subject of Valuation, which must be conducted by a so called Qualified Valuator (QV), who must be a member of an Independent self-

regulatory Professional Organisation and have an extensive experience in Mineral Asset Valuation. The Qualified Valuator is responsible for choosing an appropriate Approach from among the three generally accepted Valuation Approaches:

- income,
- market,
- cost.

However, the choice of the specific Approaches and Methods used, or excluded, must be by the Qualified Valuator justified and explained. All Material data relating to the asset in question must, according to the National Instrument 43-101 – be verified by one or more technical persons. The National Instrument 43-101 is the principal regulatory document in Canada for disclosure of information on mining projects and contains Standards obligatory to all mining companies listed at the Toronto stock exchange (the TSX Venture Exchange).

(A2.03) The SAMVAL Code

The draft of the South African Code for the Valuation of Mineral Assets (SAMVAL Code) has been drawn up by the SAMVAL Working Group of the SSC Committee under the joint auspices of the Southern African Institute of Mining and Metallurgy (SAIMM) and the Geological Society of South Africa (GSSA). The draft is currently under extensive consultations.

(A2.04) The USMinval Code

The draft prepared by the Mining and Metallurgical Society of America (MMSA) is known as the Code for Technical Assessment and/or Valuation of Mineral Properties for Independent Export Reports – USMinval Code. This standard has as yet not been implemented, mainly because of its nonconformity with the Uniform Standards of Professional Appraisal Practice of the American Appraisal Foundation as well as with the Uniform Appraisal Standards for Federal Land Acquisitions, which currently plays an important role in assessments of Mineral Assets.

(A2.05) International Valuation Standards

Specialists in Mineral Asset Valuation from many countries are also involved in the work of the International Valuation Standards Committee (IVSC). The work on formulating the requirements and guidelines is done by the Extractive Industries Task Force.

(A2.06) The POLVAL Code was prepared based on the Codes named above and adapted to the Polish context.

(A3) OWNERSHIP OF MINERAL DEPOSITS IN POLAND

(A3.01) As stipulated by the Polish Geologic and Mining Law any Mineral Deposit which does not form an integral part of land is owned by the State Treasury. According to the ruling interpretation of the law the State owns all Deposits that cannot be mined by opencast methods. The law does not permit to cede the ownership of such Mineral Assets onto a third party. The State Treasury may, within the limits stipulated by the legislation, in its own right, exploit the Mineral Deposits and exercise its ownership rights by endowing third parties with tenements. The rights of the State are exercised by relevant government bodies responsible for granting Concessions.

(A3.02) A Mineral Deposits which forms a part of the land where it is located belongs to the landowner. The law does not forbid trade in such Assets.

(A4) AN OVERVIEW OF THE WORK

(A4.01) Until this Code has been created there was no standard of Mineral Asset Valuation that the Polish mining professionals could refer to. The problem of Mineral Asset Valuation appeared following the political transformations Poland went through. Trade in Mineral Assets which became possible after 1989 and mining concession requirements entailed the necessity of conducting Mineral Asset Valuations.

There is no legislation in Poland governing the process of Mineral Asset Valuation and specifying what Qualifications the individual carrying out the task is required to possess. There are no uniform rules defining in detail the process of Mineral Asset Valuation, Qualifications criteria and the responsibility of the Expert with respect to assessment of quantity and quality of Mineral Resources and Mineral Reserves and their Valuation.

Mineral Asset Valuation is a separate area of expertise. The ruling principle that Mineral Deposits mined by opencast methods are integral parts of land estates resulted in real estate experts being considered Competent in Valuation of those types of deposits. However, in fact they do not possess appropriate Qualifications to competently carry out this task. Nevertheless some of them included Mineral Asset Valuation in their service portfolios. This fact is widely criticised by mining and geology professionals.

(A4.02) The problem of Qualifications in the area of Mineral Asset Valuation is beginning to gain recognition among valuers, most of whom specialize in other types of properties. Currently, the European Valuation Standards affirm that Mineral Asset Valuation is substantially different from real estate valuation; in point 5.02.02 the Standards state clearly that in the case a real estate valuator does not possess the specific knowledge and experience which would allow him or her to Competently conduct Mineral Asset Valuation he or she should refuse to undertake such work or seek assistance from a specialist in the field.

(A4.03) Until now in Poland there was no Independent self-regulatory Professional Organisation grouping Polish Mineral Asset Valuation specialists. On June 12, 2006, in Zakopane a meeting of the organizing committee of the Polish Association of Mineral Asset Valuers was held. The declaration accepted at the meeting stated that the main objective of the emerging Association would be (...) *„to create and develop a Polish Code for Mineral Asset Valuation, which would comprise Valuation Standards, procedures and Guidelines for carrying out the work, to train a large group of Mineral Asset Valuers and to promote the Code among mining and exploration companies”* (...).

(A4.04) On October 2, 2006, at a meeting in Krakow the Founding Committee called into being the Polish Association of Mineral Asset Valuers with the seat in Krakow, which was subsequently registered by the Regional Court for Krakow-Srodmiemie on 31.05.2007 (effective registry date – 01.06.2007). The enacted Statute of the Association in §9 p. 5 states that the Association would carry out its objective through, among others, *„creating, developing and promoting a „Code for Mineral Asset Valuation”, which would comprise Valuation Standards and Guidelines for carrying out the Mineral Asset Valuation work”*.

- (A4.05) On its first meeting on December 8, 2006, the Board of the Polish Association of Mineral Asset Valuers agreed as to the necessity to prepare, as speedily as possible, a Polish Mineral Asset Valuation Code. A decision was made to form a Special Committee of the Polish Association of Mineral Asset Valuers for Development of the POLVAL Code. Drafting of the initial text of the Code was entrusted to Piotr Saługa, Ph.D., from IGSMiE PAN Polish Academy of Sciences – Mineral & Energy Economy Research Institute of Cracow,
- (A4.06) On January 20, 2007, on the second meeting of the Board of the Polish Association of Mineral Asset Valuers held jointly with the Association's Examination Committee, the Special Committee of the Polish Association of Mineral Asset Valuers for Development of the POLVAL Code was formed. The Committee was mandated to prepare Standards and Guidelines which were intended to be used in the carrying out of Mineral Asset Valuations, and which would be respected by Polish mining and geologic companies, public agencies and financial institutions.
- (A4.07) The members of the Special Committee represent of a mix of disciplines and experience in the field of Mineral Property valuation:
- 1) Alicja Byrska-Rapała, Ph.D., AGH – University of Science & Technology of Cracow,
 - 2) Jerzy Dzieża, Ph.D., AGH – University of Science & Technology of Cracow,
 - 3) Krzysztof Galos, Ph.D., IGSMiE PAN Polish Academy of Sciences – Mineral & Energy Economy Research Institute of Cracow,
 - 4) Wojciech Glapa, Ph.D., Wrocław University of Technology,
 - 5) Jerzy Kicki, Ph.D., AGH – University of Science & Technology of Cracow,
 - 6) Sławomir Mazurek, Ph.D., KWB Konin w Kleczewie S.A. Lignite Comp.,
 - 7) Marek Nieć, professor, AGH – University of Science & Technology of Cracow,
 - 8) Andrzej Paulo, professor, AGH – University of Science & Technology of Cracow,
 - 9) Paweł Pietkiewicz, Paweł Pietkiewicz Real Estate Valuation, Inc.,
 - 10) Zbigniew Sadecki, KGHM Cuprum Sp. z o.o., Ltd.,
 - 11) Piotr Saługa, Ph.D., IGSMiE PAN Polish Academy of Sciences – Mineral & Energy Economy Research Institute of Cracow,
 - 12) Bożena Strzelska-Smakowska, Ph.D., AGH – University of Science & Technology of Cracow,
 - 13) Ryszard Uberman, professor, AGH – University of Science & Technology of Cracow,
 - 14) Robert Uberman, Ph.D., Andrzej Frycz Modrzewski Cracow University College,
 - 15) Herbert Wirth, Ph.D., KGHM Polska Miedź S.A. Copper Comp.
- (A4.08) Already on January 20, 2007, the first draft of the Code was put together, based on the text prepared by Piotr Saługa, Ph.D.
- (A4.09) On October 6, 2007, the Special Committee of the Polish Association of Mineral Asset Valuers for Development of the POLVAL Code adopted and approved a working text of the Mineral Asset Valuation Code.
- (A4.10) On May10, 2008, the Board of the Polish Association of Mineral Asset Valuers approved the final version of the Code.
- (A4.11) It was decided that the Code, prepared in this way, should now be subject to consultations with the main interested institutions as well as mining and geologic companies in the country.

(A5) VALUATION IN THE TEXT OF THE CODE

(A5.01) „Valuation” in the POLVAL Code means the process of determining the Value (expressed in monetary terms, a price) of a Mineral Asset which is available to a Tenement Holder, as opposed to “evaluation” where the key objective is an economic assessment or determination of the economic merit of a property.

(A6) THE STRUCTURE OF THE CODE

(A6.01) The Code is organized in four parts:

- 1) Basic definitions.
- 2) Standards, which are general rules that are mandatory in the Valuation of Mineral Assets.
- 3) Guidelines, which elaborate on the Standards (they provide guidance and best practices which are highly recommended to be followed in a Valuation of a Mineral Asset, although are not mandatory. However applying them would ensure that the Valuation is carried out correctly and is reliable).
- 4) The Code of Ethics of a Mineral Asset Valuator (it provides a set of ethical norms and rules which a Mineral Asset Valuator must or should comply with).

(D) BASIC DEFINITIONS

An alphabetic key to Basic Definitions:

DEFINITION	Definition No.
Commissioning Entity	(D.51)
Competence and Competent	(D.18)
Concession	(D.19)
Current.	(D.06)
Data Verification	(D.42)
Deposit development project	(D.30)
Economic reserves (<i>zasoby przemysłowe</i>)	(D.50)
Expert	(D.11)
Extent of a mineral deposit	(D.13)
Fair Market Value of MA	(D.12)
Geologic information	(D.14)
Geological report	(D.10)
Guideline	(D.43)
Independent and Independence	(D.25)
Losses	(D.36)
MA → see def. (D.07)	
MA at a deposit development project stage (MA type III)	(D.02)
MA at a prospecting stage (MA type I)	(D.03)
MA at exploration and geological report stage (MA type II)	(D.01)
MA at mine closure stage (MA type V)	(D.04)
Man-made (anthropogenic) deposit	(D.52)
MA type	(D.39)
MA type I → see def. (D.03)	
MA type II → see def. (D.01)	
MA type III → see def. (D.02)	
MA type IV → see def. (D.05)	
MA type V → see def. (D.04)	
Material and Materiality	(D.15)
MAV → see def. (D.37)	
MAV Certificate	(D.08)
a Mine	(D.44)
Mine closure	(D.23)
Mineral	(D.20)
Mineral Asset Valuator (MAV)	(D.37)
Mineral asset value → see def. (D.12)	
Mineral Assets (MA)	(D.07)
Mineral deposit	(D.53)
Mineral deposit category	(D.16)
Mineral deposit value → see def. (D.12)	
Mining and geologic law	(D.28)
Operating Mine	(D.21)

Operating mine (MA type IV)	(D.05)
Potentially economic mineral reserves (<i>zasoby nieprzemysłowe</i>)	(D.48)
Professional	(D.31)
Professional association → see def. (D.26)	
Professional organization, professional association	(D.26)
Qualifications	(D.22)
Reasonable	(D.38)
Recoverable reserves (<i>zasoby operatywne</i>)	(D.49)
Reserves (<i>zasoby eksploatacyjne</i>)	(D.46)
Resources (<i>zasoby bilansowe</i>)	(D.45)
Risk	(D.34)
Standard	(D.35)
Tenement holder	(D.40)
Total resources (<i>zasoby geologiczne</i>)	(D.47)
Transparent	(D.32)
Valuation → see def. (D.12), (D.29)	
Valuation approach	(D.27)
Valuation Code	(D.17)
Valuation Date, Report Date	(D.09)
Valuation method	(D.24)
Valuation process	(D.29)
Valuation Report	(D.33)
Valuator → see def. (D.37)	
Value → see def. (D.12)	
Value of geological information	(D.41)

NOTE: Where in the chapter below a phrase or term is written in italics it means it is defined separately.

DEFINITIONS

MA → see def. (D.07)

MA type I → see def. (D.03)

MA type II → see def. (D.01)

MA type III → see def. (D.02)

MA type IV → see def. (D.05)

MA type V → see def. (D.04)

(D.01) MA at exploration and geological report stage (MA type II) – the entirety of *mineral assets* related to the area where a *mineral deposit* has been documented for which the quantity of *mineral resources* and/or *reserves* has been assessed and possibility of mining has been established but no decision to proceed with development has yet been made. The *assets* are related to *mineral deposits*:

- 1) at an early stage of assessment;
- 2) mined previously and abandoned,

- 3) where mining was temporarily discontinued.
- (D.02) MA at a deposit development project stage (MA type III) – the entirety of *mineral assets* related to a *mineral deposit* for which economic viability of mining has been established by means of a *deposit development project*.
- (D.03) MA at a prospecting stage (MA type I) – the entirety of *mineral assets* related to the area where a *mineral deposit* may be discovered or documented.
- (D.04) MA at mine closure stage (MA type V) – the entirety of *mineral assets* related to a mine undergoing closure, including closure funds and other means provided for mine decommissioning, reclamation and rehabilitation of the mining area.
- (D.05) Operating mine (MA type IV) – the entirety of *mineral assets* related to an operating *mine*.
- (D.06) Current – means current with respect to, and relative to, the *valuation date*.
- (D.07) Mineral Assets (MA) – *mineral deposits, anthropogenic deposits* or their parts and related to them:
- a) intangible and legal assets, including but not limited to:
 - *geological study* or the right to obtain *geologic information*,
 - *deposit development project*,
 - tenements.
 - b) fixed assets (at a *mine*, in particular: mine workings, buildings, infrastructure and equipment for the processing of minerals),
 - c) movables (machines and equipment, materials),
 - d) securities, financial assets, funds, including *mine closure funds*, which are in the possession of the *mine*.
- (D.08) MAV Certificate – a document issued by the Board of the Polish Association of Mineral Asset Valuers confirming high level of *qualifications*, knowledge and practical skills with respect to *valuation* of *mineral deposits* and *anthropogenic deposits*. The certificate is awarded by the Board to a member, a candidate for a *Mineral Asset Valuator*, who underwent the required training and passed the prescribed tests in front of the Association's Examination Committee.
- (D.09) Valuation Date, Report Date – Valuation Date means the effective date of a *valuation*. Report Date means the date upon which a Valuation Report is dated and signed by a *Mineral Asset Valuator*. Valuation Date may but does not have to be the same as the Report Date.
- (D.10) Geological report – a report containing compiled results of the conducted exploratory works together with their interpretation.
- Geological report describing a *mineral deposit* is prepared to define:
- 1) extent of the *deposit*,
 - 2) *mineral resources and reserves*, together with their categories,
 - 3) type and quality of the *mineral*,
 - 4) geologic, mining and environmental conditions of the occurrence.
- In the case when the geological report is to be used as a basis for granting a *concession*, the level of geological knowledge should be such as to enable conducting a *deposit development project* and preparing a *mine closure plan*.
- (D.11) Expert – a person who assists a *Mineral Asset Valuator* to prepare sections of Reports, who:

- 1) is competent and has had at least five years of experience in the field of:
 - (a) mining, and/or,
 - (b) geology, and/or,
 - (c) geo-engineering, and/or,
 - (d) geo-physics, and/or,
 - (e) surveying, and/or,
 - (f) environmental protection, and/or,
 - (g) economics;
 - 2) has experience relevant to the type of *MA* on which he or she is to report.
- (D.12) Fair Market Value of MA – means the highest price, expressed in terms of money or money’s worth, determined by a *MAV* in accordance with the rules prescribed by the POLVAL Code, which would be obtainable for the *MA* in question in an open and unrestricted market between knowledgeable, informed, *independent* and prudent parties, acting at arm’s length, neither party being under any compulsion to transact. The value should be selected as the most likely figure from within a range after taking account of *risk* and the possible variation in basic economic, geologic, mining and technical parameters.
- Valuation* of any forms of title or rights other than „ownership” does not fall into the scope of *Valuation* as defined in this *Code*.
- (D.13) Extent of a mineral deposit – natural extent of an occurrence of a useful *mineral* forming a *deposit*.
- (D.14) Geologic information – data and samples obtained in the course of prospecting and exploratory works. As stated in the *Mining and geologic law* the State Treasury, represented by the Minister of Environment or the bodies and institutions authorised by him, holds all rights to the geologic information (except the cases specified in the law).
- (D.15) Material and Materiality with respect to:
- 1) the contents and conclusions of a *Valuation Report*,
 - 2) any contributing assessment, calculation or the like used in the process of *valuation*,
 - 3) data and information,
- means that any of the above is of such importance to the value of the *Mineral Asset* in question, that the inclusion or omission of such data or information might result in the reader of a *Valuation Report* coming to a substantially different conclusion as to the *value* of the *Mineral Asset*.
- (D.16) Mineral deposit category – defines the level of geological knowledge of a *deposit*, taking into account the greatest possible error in estimating the *mineral resources* and *mineral reserves* the *deposit* contains, denoted by letter-number symbols (as regulated by the Minister of Environment).
- (D.17) Valuation Code – a set of *standards* and *guidelines* contained within one document regulating the processes of commissioning and carrying out of *valuations* and preparing of *Valuation Reports* by *Mineral Asset Valuers*. The *standards* and *guidelines* of the POLVAL Code regulate the processes of *mineral asset valuations* and preparation of *valuation reports* in the Republic of Poland.
- (D.18) Competence and Competent – means, in reference to a person, having relevant education, *qualifications*, experience, professional expertise, holding appropriate

licences and applying ethical standards so as to have a reputation that gives authority to statements made in relation to particular matters.

A competent person must possess relevant professional knowledge and skills and continually strive to enhance his/her qualifications.

High level of competence in relevant technical and economic fields is required to conduct *mineral assets valuations*. It is therefore of utmost importance that in a *valuation* appropriate *experts* are engaged.

- (D.19) Concession – a document obtained on expending a due fee that confers on the holder certain rights to explore for and/or extract minerals or petroleum that may be, or is known to be contained under the surface of the land. The Concession is granted in accordance with the provisions of the *Mining and Geologic Law*.
- (D.20) Mineral – any rock, liquid or gas extracted from the earth for human use directly or after processing.
- (D.21) Operating Mine – a mine and its processing plant(s) that have been commissioned and are *currently* in production.
- (D.22) Qualifications – a combination of knowledge and skills which make an individual suitable for performing a particular task (in his/her field of expertise).
- (D.23) Mine closure – the process of decommissioning and closure of mine workings, reclamation and demolishing of mine buildings and infrastructure and rehabilitation of the mining area,
- (D.24) Valuation method – any method helpful in establishing the *value* of a *mineral asset*.
- (D.25) Independent and Independence – means that the *Mineral Asset Valuator* and any Expert(s) employed by him must be able to satisfy any relevant legal tests of Independence. To this end, the *Mineral Asset Valuator, Expert(s)* and their immediate families may not have a significant pecuniary or beneficial interest in:
 - 1) *the commissioning entity*,
 - 2) the owners or promoters (or parties associated with them) of any of the *mineral assets* that are the subjects of the *valuation* to be prepared,
 - 3) neither the offerer nor target companies in the case of takeover situations, and must not:
 - 4) be in the possession of any of the mineral assets that are the subjects of the *valuation*,
 - 5) profit in any way, tangible or intangible, from the outcome of the *valuation*.

The above provisions do not pertain the the fees received by the *Valuator* and *Expert(s)* for their work.

In order to support a declaration of Independence, all valuers and experts involved in the *valuation* must disclose any interests (current or future) that could be seen as being capable of compromising their Independence. The valuers and experts should also declare any of their previously undertaken *valuations* relating to the *mineral assets* being valued.

Fees, or the provision of further work to the Valuator and Expert(s) must not be dependent on:

- 1) the outcome of the *valuation*, or
- 2) the success or failure of the transaction for which the *valuation* was required.

- (D.26) Professional organization, professional association – means a self-regulatory organization of professionals.

In this code the definition relates to an independent, self-regulatory organization grouping professionals who possess appropriate *qualifications* and *competence* in geology, mining or economics, which:

- 1) has been given authority or recognition by law;
- 2) admits members primarily on the basis of their academic *qualifications* and professional *competence* and experience;
- 3) requires from its members compliance with professional standards of expertise and behaviour according to a code of ethics established by the association;
- 4) has disciplinary powers, including the power to suspend or expel a member.

- (D.27) Valuation approach – the way in which a *valuation* is carried out.

The three generally accepted valuation approaches are:

- 1) the income approach – which is based on the principle of anticipation of benefits and includes all *methods* that are based on the income or cash flow generation potential of the *mineral asset*;
- 2) the market approach – in which the *mineral asset* being valued is compared with the transaction value of similar *mineral assets*, transacted in an open market;
- 3) the cost approach – in which the value is perceived as what was spent on the asset, taking into account any discounts, premiums and adjustments as may be deemed necessary depending on the circumstance.

- (D.28) Mining and geologic law – the legislation *currently* in force, which regulate the aspects of mining and exploration activities.

- (D.29) Valuation process – all activities undertaken by the *MAV* in order to arrive at accurate and reliable *value* of a *mineral asset*. The process must be as *transparent*, objective and rigorous as is possible using the *material* data and information, which are available to the *valuator* and the *expert(s)* employed by him. The outcome of any *valuation* will depend on a number of key assumptions which the *valuator* and the *expert(s)* will need to make. All the assumptions made must be:

- disclosed,
- reasonable.

In addition, all assumptions made regarding:

- *material* technical and commercial parameters,
- the *risks* associated with those assumptions, and
- the *valuation methods* used

must be in the resultant valuation report clearly set out.

- (D.30) Deposit development project – means a report commissioned by an entity intending to apply for a mining *concession*, which is based on a *geologic report*, in which engineering, operating, economic and other relevant factors are considered, which is prepared in sufficient detail that it revealed the intentions of the mine operator as far as:

- 1) rational *deposit* management;
- 2) adopting a mining method which would ensure least negative impact on the environment

are concerned.

The structure and content of a Deposit Development Project are regulated by law.

Depending on the level of detail a Deposit Development Project may be equivalent to a prefeasibility or feasibility study.

- (D.31) Professional – means having the skill, qualifications and experience to be engaged in a specific activity as one's main paid occupation.
- (D.32) Transparent – literally means “easily seen through, clear and unmistakable, free from affectation and disguise.” For the purposes of the POLVAL Code, these qualities must apply to the data and information used as the basis of a *valuation*. In particular, this condition must be applied in relation to:
- 1) the assessment of *mineral resources* and/or *mineral reserves*,
 - 2) mining methods (pol. *prowadzenia eksploatacji*),
 - 3) mineral processing issues (pol. *procesu przeróbki i/lub obróbki*),
 - 4) product marketing potential (pol. *możliwości zbytu surowca mineralnego*).
- Transparent means therefore that the *material* data and information used in (or excluded from) the *valuation* of a *mineral asset*, the assumptions, the *valuation approaches* and *methods*, and the *valuation* itself must be set out clearly in the *Valuation Report*, along with the rationale for the choices and conclusions of the *Mineral Asset Valuator*.
- (D.33) Valuation Report – means a report on the results of a valuation prepared by a *MAV* in accordance with this *code*.
- (D.34) Risk – means the chance of an event occurring that will have a negative impact on achieving the planned objectives. A risk may be quantifiable in terms of the likelihood of loss, less than expected returns or an undesirable outcome.
- (D.35) Standard – means a general rule which is mandatory in the *valuation* of *mineral assets*.

Professional association → see def. (D.26)

- (D.36) Losses – quantity of *mineral* considered not mineable or which was not recovered due to:
- 1) adverse mining and/or geologic conditions (geological losses),
 - 2) the adopted mining method and system (operational mining losses),
 - 3) processing of the *mineral* (process plant losses).

Valuator → see def. (D.37)

- (D.37) Mineral Asset Valuator (MAV) – is an individual responsible for carrying out of *mineral asset valuations* who is a professional with demonstrated appropriate qualifications and experience in mining, geoscience, mining geology and economics, supported by at least three years experience, within the past 15 years, and in addition:
- 1) is a Polish citizen, a member in good standing of the Polish Association of Mineral Asset Valuers and has a valid *MAV Certificate*.
 - 2) is a non-Polish citizen with at least 5 years of experience relevant to the subject *mineral asset*, holds appropriate licences and is a member in good standing of an approved self-regulatory *professional association (professional organization)*.
- (D.38) Reasonable – in reference to the valuation of a *mineral asset*, means that other appropriately *qualified, competent* and experienced *valuators* with access to the same information would value the asset at approximately the same range.

It is not sufficient for a *valuator* to determine that he or she personally believes the value determined is appropriate without satisfying an objective standard of proof. To identify valuations that may be out of line with industry *standards* and norms a reasonableness test may be used. Reasonableness test means an impartial assessment to determine if the overall *valuation approach* used is rational, realistic and logical in its treatment of the inputs to a *valuation* to the extent that, having the same data and information about a *mineral asset*, another *valuator* would arrive at a *value* of approximately the same level.

A decision to conduct a reasonableness test is made by the Board of the Polish Association of Mineral Asset Valuers in conjunction with the Chairman of the Ethics Commission on an application from the entity commissioning the *valuation* in question.

MAV → see def. (D.37)

- (D.39) MA type – numerical (Roman numerals) or alpha-numerical symbol of mineral asset classification group in the POLVAL code, depending on the level of geological knowledge and the phase the exploration and/or mining project is in.
- (D.40) Tenement holder – an entity holding an appropriate *concession* for conducting activities provisioned by the *mining and geologic law*.

Value → see def. (D.12)

Mineral asset value → see def. (D.12)

- (D.41) Value of geological information – means its price expressed in terms of money or money's worth.

The carrying out of an assessment of value of *geological information* made available for a fee, requires relevant *qualifications* to conduct, oversee and manage geological work, depending on its type, form and purpose, and according to the law, is done using the following *methods*:

- 1) calculating the cost of obtaining the *geological information* by expressing it in the nominal prices of the year it was acquired revalued to the prices of the year preceding the year of the assessment;
- 2) calculating the cost of obtaining the *geological information* by calculating the cost of conducting geological work of relevant scope and using comparable technology at the prices of the year preceding the year of the assessment;
- 3) calculating the cost of obtaining the *geological information* by calculating the cost of conducting geological work of relevant scope using *current* technology and taking into consideration current standards of geological reports, at the prices of the year of the assessment;
- 4) calculating a fixed flat rate value of *geological information*.

Cost of obtaining geological information include expenditure on:

- 1) planning of the geological work;
- 2) carrying out of the work;
- 3) preparing a geological report.

Mineral deposit value → see def. (D.12)

(D.42) Data Verification – means the process of confirming by the *MAV* or an *expert(s)* employed by him that the data presented to him by the *commissioning entity* has been generated with appropriate procedures, has been accurately transcribed from the original source and is suitable to be used.

Valuation → see def. (D.12), (D.29)

(D.43) Guideline – means a best practices recommendation, which, while not mandatory in the *valuation of mineral assets*, is highly recommended by this *code* to be used.

(D.44) A mine – a technologically and organizationally separate unit comprising machinery, infrastructure and other resources used in the work of extracting *minerals* from their natural *deposits* by any means or method, and includes mine workings, buildings and concentration plant(s).

(D.45) Resources (pol. *zasoby bilansowe*) – quantity of mineral in a deposit or its part in such form and of such quality and quantity, as defined by viability criteria, that there are reasonable prospects for its eventual economic extraction.

(D.46) Reserves (pol. *zasoby eksploatacyjne*):

a) in the case of petroleum – recoverable reserves,

b) in the case of solid minerals – *economic reserves*, which include any dilution material and from which any losses that may occur when the material is mined were deducted.

(D.47) Total resources (pol. *zasoby geologiczne*) – total quantity of a mineral in the deposit.

(D.48) Potentially economic mineral reserves (pol. *zasoby nieprzemysłowe*) – part of mineral resources the extraction of which in the manner described in a *deposit development project* is, under current technological, economic, environmental or other relevant commercial conditions, not possible.

(D.49) Recoverable reserves (pol. *zasoby operatywne*) – *economic reserves*, from which any losses that may occur when the material is mined were deducted.

(D.50) Economic reserves (pol. *zasoby przemysłowe*) – part of *mineral resources* (or – in justified cases – uneconomic occurrences (pol. *zasoby pozabilansowe*) the extraction of which in the manner described in a *deposit development project* is, under current technological, economic, environmental or other relevant commercial conditions, economically viable.

(D.51) Commissioning Entity – means the organization, company or person commissioning a *mineral asset valuation*.

(D.52) Man-made (anthropogenic) deposit – refuse or other storage piles, wastes, or rock dumps and mill tailings derived from the mining, or concentration of *mineral*, from which useful *mineral(s)* may be recovered in quantities making extraction economically viable.

(D.53) Mineral deposit – natural accumulations or enrichments of a *mineral* the exploitation of which is (or may be in the future) economically viable.

(S) STANDARDS – MANDATORY RULES

(S1) SCOPE OF THE STANDARDS

(S1.01) The Standards are limited to Valuation of Mineral Assets (including any interests therein). They may also be used in Valuation of corporations (or other entities) that hold Mineral Assets as part of their properties – but only in the part involving Valuation of the Mineral Assets in question.

(S2) VALUE

(S2.01) „Value” in the Standards refers primarily to Fair Market Value. If some other type of Value is utilized, a clear definition must be provided by the Mineral Asset Valuator and highlighted in the Valuation Report.

(S2.02) Value relates to Current and future expectations.

(S2.03) Value relates to a specific point in time. Valuation comments and opinions must be given as at the Valuation Date, which must be clearly stated.

(S2.04) The value of Mineral Assets is based on, or directly related to, what they can earn.

(S3) VALUATION TENETS

(S3.01) In the Valuation process and in the preparation of a Valuation Report the Mineral Asset Valuation must follow the following basic tenets (their definitions can be found in paragraph (D) of the Code):

- Materiality,
- Transparency,
- Independence,
- Competence and Professionalism,
- Reasonableness.

General principles of Valuation are discussed in the Guidelines (paragraph (W)).

(S3.02) A MAV must:

- 1) Outline the purpose(s) of the Valuation,
- 2) Identify valuation users.

(S4) QUALIFICATIONS AND RESPONSIBILITIES OF A MAV

(S4.01) A MAV is responsible for the overall Valuation of a mineral asset and the preparation and content of the Valuation Report. The Qualified Valuator may be assisted in the preparation of various aspects of the Valuation and the Valuation Report by one or more Experts or rely on technical reports prepared by them.

(S4.02) The Valuator is responsible for assuring that the Experts who contribute to the Valuation, or upon whom the Valuator relies, possess appropriate Qualifications, are experienced and Independent.

- (S4.03) The Mineral Asset Valuator and the Experts employed by him must be Independent. There must be clear, full, and plain disclosure of any past, present or anticipated business relationships, direct or indirect, between the Valuator and the Experts employed by him and the Commissioning Entity or other interested parties which may be relevant to the Valuator's (and/or the Experts') Independence, or a lack thereof.
- (S4.04) The Valuator must include in the Valuation Report a relevant Certificate on which the registry number must be clearly seen, a declaration of his Current membership in the Polish Association of Mineral Asset Valuators, and must stamp the Valuation Report with his or her professional seal.
- (S4.05) The Valuator shall retain his or her work file and all supporting data relating to a Valuation and to a Valuation Report for a minimum of five years after the Report Date.

(S5) COMMISSIONING A VALUATION

The Commissioning Entity may refer to the Valuation commissioned by it as carried out in accordance with the provisions of this Code if the following conditions are met:

- (S5.01) The Commissioning Entity must reasonably establish that the Mineral Asset Valuator is sufficiently Competent and Independent to carry out the Valuation of the subject Mineral Asset. This includes establishing whether he or she is an authorised member of the Polish Association of Mineral Asset Valuators or, in the case of non-Polish Valuators that their certificates of qualifications presented by them are Current and that they are authorised members of a professional organization which meets all of the attributes of a Self-Regulatory Professional Organization.
- (S5.02) The Commissioning Entity and the Qualified Valuator must agree, in an engagement letter or written contract, on the terms of reference of the Valuation assignment, which terms must be summarized and disclosed in the Valuation Report. In such a contract it must be explicitly written that the Valuation must be carried out in accordance with the provisions of this Code.
- (S5.03) The Commissioning Entity must represent in writing to the Mineral Asset Valuator that complete, accurate and true disclosure is made to the Valuator of all Material data and information relevant to the Valuation and that the Valuator has reasonable access to the Commissioning Entity's records and personnel to enable a proper Valuation to be made. The Commissioning Entity must inform the Qualified Valuator which, if any, of the data and information supplied is confidential and the extent to which it should or should not be disclosed to the public.
- (S5.04) It is the liability of the Valuator and the Expert(s) employed by him to verify the data they use. The results of Data Verification, including an assessment of their quality and reliability must be discussed in the Valuation Report.

(S6) VALUATION

- (S6.01) The Mineral Asset Valuator has the responsibility to decide which Valuation Approaches and Methods to use. The choice of the specific Approaches and

Methods used, must be by the Valuator justified and explained. The limitations of each of the used Method must be explained.

- (S6.02) When carrying out the Valuation the three generally accepted Valuation Approaches must be considered and discussed in the Valuation Report:
- income approach,
 - market approach,
 - cost approach.

More than one Approach should be used in the Valuation of each Mineral Asset. In the case of substantial disparity of results they must be discussed in reference to the assumptions made in the case of each Approach. In each case a Risk analysis must be done and limitations of using each particular Approach must be presented to reflect the uncertainty and subjective nature of the Valuation process.

The choice of a Valuation Approach does not have to be consulted with the Commissioning Entity, however a MAV should advise the Commissioning Entity of the limitations and specific nature of the used Valuation Approaches and may seek consultation when defining Valuation assumptions so that they reflect the current market situation.

If a Mineral Asset Valuator is strongly of the opinion that only one Approach should be used in particular circumstances, the Valuator must justify and explain why other Approaches are not used.

- (S6.03) The Valuation of a Mineral Asset must be reported as a range of values to reflect the, inherent to mining projects, uncertainty and subjective nature of the Valuation process. If reporting of a single value is required, the selection of a single value from the range must be explained. The Valuation Report must include a Risk analysis.

(S7) MINERAL RESOURCES AND RESERVES

- (S7.01) Valuation must consider all Mineral Resources and/or Reserves included in the Mineral Asset in question.
- (S7.02) The Code requires that income Approach is used with data relating to Recoverable Reserves (and/or Reserves). In some exceptional circumstances it is permissible to use income Approach with data relating to one or more lower ranking categories of Mineral Resources, but such decision must be properly justified and accompanied by an appropriate Risk analysis.
- (S7.03) Mineral Resource/Reserve estimates that are to be used in Income Approach must be done by a MAV or an Expert(s). The MAV may rely on Resource/Reserve estimates included in a relevant Geological Report or a Deposit Development Project. In this case the MAV or the Expert(s) must discuss their reliability and verify that they are Current.
- (S7.04) A Valuation must involve an assessment of error in the Resource/Reserve estimate due to the level of geological knowledge of the Deposit.
- (S7.05) A Mineral Resource/Reserve estimate must involve an assessment of quality of the Mineral, an assessment of mining, processing, metallurgical and financial parameters, and a discussion of technical, organizational and social conditions, together with an estimate of the possible level of error in the assessments.

(S8) VALUATION REPORT

- (S8.01) A Valuation carried out in accordance with the provisions of this Code must be reported in a Valuation Report. Instructions for the preparation of a Valuation Report and a recommended table of contents are set out in the Guidelines (W).
- (S8.02) All Current estimates, together with the data used for the estimation, of Mineral Resources and/or Mineral Reserves for the Mineral Asset being valued must be disclosed and discussed in the Valuation Report. If there is more than one estimate of Mineral Resources and/or Mineral Reserves, the Mineral Asset Valuator must decide which estimates are Material to use in the Valuation and state the reasons.
- (S8.03) The Valuation Report must specify the Valuation Date and refer to all previous Valuations, if any, of the subject Mineral Asset and explain any Material differences between them and the present Valuation.
- (S8.04) The Valuation Report must specify the key risks, assumptions and limitations in the Valuation and explain why the assumptions used are Material, Reasonable and appropriate in the circumstances.
- (S8.05) A Valuation Report must be signed by the Mineral Asset Valuator who is responsible for the Valuation Report and by all Experts employed by him or her.
- (S8.06) The Valuation Report must contain:
- 1) Certificates confirming the qualifications, as specified in definition (D.37), of the Mineral Asset Valuator and each Expert who contributed to the Valuation Report.
 - 2) signed declarations of Independence of the MAV and the Expert(s) employed by him or her.
 - 3) declarations from the MAV and the Expert(s) employed by him or her that the data used in the process of Valuation was verified for its quality and reliability.
 - 4) a declaration of the MAV that the Valuation complies with the provisions of the Standards forming part of this Code.
 - 5) a declaration of the MAV regarding the extent to which the Valuation is consistent with the Guidelines. Such statement must disclose and explain the reasons for any inconsistencies or deviations from the Guidelines.

If any of the aforelisted declarations is absent from the Valuation Report, is not complete or is subject to any conditions or disclaimers, the Valuation is regarded as not complying with the provisions of this Code.

- (S8.07) The Mineral Asset Valuator – or an Expert employed by the Valuator – should undertake a site visit to the Mineral Asset being valued, particularly where such inspection is likely to reveal information or data that is Material to the Valuation Report. The Report must then disclose:
- 1) date of the site visit,
 - 2) the name(s) of the person(s) who conducted the site visit,
 - 3) the extent of the examination.
- If a site visit is not undertaken, the MAV – or the responsible Expert – must:
- 1) justify the decision,

- 2) produce satisfactory arguments that there is sufficient Current information available to allow a Valuation of the subject Mineral Assets to be made without a site inspection.

The decision whether or not to conduct such an inspection must be made by the MAV or the Expert. The Commissioning Entity must not in any way influence the decision.

(S8.08) A Valuation Report shall contain a summary and introduction section. Moreover, it shall address each of the following topics.

- 1) Summary.
- 2) Introduction.
- 3) Purpose, subject and scope of the Valuation.
- 4) Compliance with the POLVAL Standards and Guidelines.
- 5) Location of the subject Mineral Asset, accessibility of the Mineral Deposit and infrastructure.
- 6) Asset Ownership, Status and Agreements.
- 7) Geological Report – analysis and discussion.
- 8) An analysis and discussion of a Deposit Development Project.
- 9) Mineral Resources/Reserves.
- 10) Description of mining and processing operations (in the case of metals – including metallurgy) of an Operating Mine.
- 11) Condition of the natural environment, environmental impact of mining.
- 12) Aspects of mine closure (technical, environmental, financial).
- 13) Key assumptions, Risk and limitations.
- 14) Valuation Approaches and Methods.
- 15) Valuation process.
- 16) Valuation conclusion.
- 17) References.
- 18) Certificates and other relevant documents proving the Qualifications, Competence and Professionalism of the Mineral Asset Valuator and the Experts.

(W) GUIDELINES – RECOMMENDED PRACTICES

The Guidelines are not mandatory but provide guidance and best practices, which are recommended to be followed in the Valuation of Mineral Assets.

(W1) VALUATION APPROACHES AND METHODS

(W1.01) The Mineral Asset Valuator has at his disposal three generally accepted Valuation Approaches:

- 1) Income Approach,
- 2) Market Approach,
- 3) Cost Approach.

(W1.02) As applied to Mineral Assets, the Valuation approach depends on the stage of exploration or development of the deposit. This Code recommends that the MAV categorizes the Mineral Asset in question according to the following classification:

- 1) Type I – MA at a prospecting stage (MA),
- 2) Type II – MA at exploration and geological report stage,
- 3) Type III – MA at a deposit development project stage,
- 4) Type IV – Operating mine,
- 5) Type V – MA at mine closure stage.

(W1.03) Table W1.04 shows which Valuation Approaches are generally considered appropriate to apply to different Types of Mineral Assets listed above.

Table W1.04. Valuation Approaches recommended by the Code for use with different Types of Mineral Assets

Valuation Approach	Exploration and mining stage				
	Prospecting	Exploration and geological report	Mine design and development	Operating mine	Scaling down and closure
	MA Type I	MA Type II	MA Type III	MA Type IV	MA Type V
Income	No	In some cases	Yes	Yes	No
Market	Yes	Yes	Yes	Yes	Yes
Cost	Yes*	Yes*	No	No	Yes

Symbols:

* – only in the case of positive results.

(W1.04) Based on best used practices The POLVAL Code proposes to rank Valuation Methods as shown in table W1.05.

Table W1.05. Ranking of Valuation Methods in the POLVAL Code

A	A method recommended by the Code as the preferred method. Very widely used.
B	A method recommended by the Code. Relatively widely used.
C	A method accepted by the Code – recommended in some cases, not widely used and not widely understood.
N	Not acceptable

(W1.05) Table W1.06 shows which Valuation Approaches and Methods are recommended by the POLVAL Code depending on a Mineral Asset type.

Table W1.06. Valuation Approaches and Methods recommended by the POLVAL Code depending on a Mineral Asset type

Depending on a Mineral Asset type								
Approach	Method	MA Type I	MA Type II			MA Type III	MA Type IV	MA Type V
			II A	temporarily discontinued				
				II B	II C			
Income	DCF (discounted cash flow analysis)	N	N	A* (N)	N	A* (N)	A* (N)	N
	ROV (real option valuation)	C	C	C* (A)	A	C* (A)	C* (A)	N
Market	Comparable Transactions	A	B	B	B	C	C	B
Cost	1) Appraised Value, 2) Multiple of Exploration Expenditure	B	A	N	C	N	N	B

Acronyms and symbols:

DCF – Discounted Cash Flow

ROV – Real Option Value.

II A – MA at an early stage of assessment or abandoned,

II B – MA with prospects for an economically viable extraction in a near future.

II C – MA with no prospects for an economically viable extraction in a foreseeable future.

* Where NPV Values, obtained using the DCF Method, are negative, the PREFERRED METHOD is the ROV Method.

(W2) VALUATION REPORTS – RECOMMENDED CONTENTS

(W2.1) The Valuation Report should consist of technical and economic information and analyses carried out in the course of the Valuation.

(W2.2) The following outline is intended to be a checklist for informational purposes regarding the topics of discussion that must be addressed in the Valuation process. The checklist is provided to assist the Mineral Asset Valuator in identifying areas that may be appropriate to be included in a Valuation Report. It is not intended that the Valuation Report address all of the items on the checklist since it is in the discretion of the Valuator to determine their appropriateness to the Mineral Asset being valued. Depending on the Type of the Mineral Asset, the level of detail needed will vary.

1) Summary.

Describe, provide or attach:

- The basic legal aspects – the engagement letter and the terms of reference, scope of work, the Valuation Date;
- Subject of the Valuation – description of the subject Mineral Asset(s), location of the Mineral Deposit and its legal status, legal status of the land property, Concessions;
- Characteristics of geology and mineralization; history of exploration and production; infrastructure; the current status.
- Mineral Resources and/or Mineral Reserves together with an opinion of the accuracy of their assessment; potential for new Resources/Reserves being documented.

- e) The mining method(s); production volumes, production forecast.
 - f) Environmental protection issues; mine decommissioning and closure method;
 - g) Valuation Approaches and Methods.
 - h) Valuation assumptions; Valuation process; Valuation results.
 - i) Risk analysis.
 - j) Summary and conclusions.
- 2) Introduction.
- a) Identify the Commissioning Entity for whom the Valuation is prepared, identify any other intended users, state the owner of the Mineral Asset, and confirm who has paid for the Valuation.
 - b) Describe the Valuation mandate and terms of reference.
 - c) Outline the purpose of the Valuation and its intended use.
 - d) Describe the Mineral Asset that is being valued briefly and indicate its Type.
 - e) State the Valuation Date and the Report Date.
 - f) Name the Mineral Asset Valuator and the number of his (her) Certificate; name all Experts involved in the Valuation and describe their Qualifications;
 - g) Include signed declarations of the MAV and the Experts stating their Independence or lack of Independence.
 - h) Provide a definition of the type of Value being determined.
 - i) Provide definitions of other terms used in the Report.
- 3) Purpose, subject and scope of the Valuation.
- a) Describe the scope of work performed.
 - b) Describe information reviewed, or relied upon, and its source.
 - c) Describe steps taken to assure the reliability of the information relied upon.
 - d) Describe how Data Verification was done.
 - e) Present the results of a site visit. Name the Mineral Asset Valuator or the Expert who carried out the site visit. Stipulate when it was done, and what was examined, or explain why a visit was not undertaken.
 - f) Specify if data is confidential, and why.
 - g) State any disclaimers that apply to the data or the Mineral Asset title, or that apply to the extent that certain information or opinions of others are relied on.
- 4) Compliance with the POLVAL Standards and Guidelines.
- a) Include a statement that the Valuation was carried out in accordance with the provisions of the Standards.
 - b) Where the Valuation is inconsistent with the Guidelines, disclose and explain such inconsistencies or deviations and reasons therefor.
- 5) Asset Location, accessibility of the Deposit and Infrastructure.
- a) Describe the location of the Mineral Asset in question in detail, including area, and provide a location map.
 - b) Provide distances to major centres, and an outline of how the property can be reached.
 - c) Describe the availability of infrastructure such as roads, rail, shipping, airports, power, water, pipelines, labour, supplies and services.

- d) Provide a summary of other relevant local issues: social, geographical, environmental and the like.
 - e) Provide maps on a regional and local scale, showing: the Extent of the Mineral Deposit, the boundaries of land properties within which the Deposit occurs, all relevant infrastructure including roads, railways, power lines, pipelines, and tailings disposal sites etc. It is recommended that existing maps be used (eg. geographical, political, thematic maps).
- 6) Legal status of the Mineral Asset.
- a) Describe the Mineral Asset title and the owner's interest in the property, assets and liabilities together with the rights to the Deposit, including surface rights, including obligations that must be met to retain the property, and the expiry dates of claims, licences and other tenure rights, along with any claims against the MA and other encumbrances to the title.
 - b) Describe any agreements, such as options, joint ventures, farm-ins, royalties, back-in rights, payments, and the like which are relevant to the Mineral Asset in question and which were considered in the Valuation.
 - c) Describe the status of the Mineral Asset at the Valuation Date including statutory work requirements, surface rights, surface and sub-surface water rights, easements, attitude of the local community towards the mining project, aboriginal land claims, any legal issues, environmental and permitting issues and the impact these may have on property development.
- 7) Overview and discussion of a Geological Report.
Describe all relevant existing Geological Reports (with subsequent supplements). Assess quality and reliability of the data. In case there is no Geological Report, prepare one in accordance with the generally accepted rules and attach it to the Valuation Report.
- 8) Analysis and discussion of a Deposit Development Project.
Describe all existing Deposit Development Projects (including any supplements). Assess quality and reliability of the data. In case there is no Deposit Development Project, prepare one in accordance with the generally accepted rules and attach it to the Valuation Report.
- 9) Mineral Resources and/or Mineral Reserves
- a) Provide estimates of Mineral Resources and Mineral Reserves, if any, and verify how Current they are. Confirm that the work on the estimation was carried out by an Expert.
 - b) If the estimates are accepted in the Valuation, justify the decision.
- 10) Description of mining and processing operations (in the case of metal ore Deposits – including metallurgy) of an Operating Mine.
In the case of an Operating Mine (MA Type IV):
- a) Provide a full description of mining and processing methods, mining dilution, metallurgical performance, throughput and output capacities.
 - b) Provide an outline of capital and operating costs, contracts, taxes, royalties and other.
 - c) Provide an assessment of operating costs, infrastructure, management capabilities and products marketing.
 - d) Describe any technical or financial issues that may impact on Value, and discuss measures proposed to deal with these.
 - e) Provide details and results of any cash flow analysis or economic study..

In addition, in the case of metal ore deposits:

- f) Provide details of the concentration and metallurgical processes, focusing in particular on:
 - beneficiation potential of the ore,
 - Describe sampling procedures for metallurgical tests and quality control of ore and concentrate and discuss the representativeness of the samples.
- 11) Condition of the natural environment and impact of mining.
Present basic conclusions of any existing environmental impact reports (including those contained in Reports), and in the case there are none or the available reports are incomplete:
 - a) Describe the environmental standards that have to be met, and the permits needed to carry out work on the Mineral Asset.
 - b) Describe any limitations the environmental considerations may impose on the exploration, development and production on the property.
 - c) Provide a study of the project's environmental impact.
 - d) Provide an outline of environmental issues that have to be dealt with, and the proposed means for dealing with them.
- 12) Mine closure considerations (technical, environmental, financial).
 - a) Provide a Closure plan, which discusses technical and financial aspects of closure, including potential for reclaiming machinery and equipment, and post-closure responsibilities.
 - b) Describe closure financial provisions; describe the scope of post-closure rehabilitation work.
- 13) Key Assumptions, Risks and limitations.
 - a) Describe and discuss all Material assumptions and limiting conditions that affect the analyses, opinions and conclusions reached and upon which the Valuation is based.
 - b) Discuss the Material risks associated with the Mineral Asset in question, and in particular:
 - geological,
 - economic and financial,
 - technical,
 - environmental,
 - country-specific risks,
 - other Material.
 - c) Describe reliance on information obtained.
- 14) Valuation Approaches and Methods.
 - a) Provide a list of recent Valuations of the Mineral Asset (for at least the past two years), and provide the resulting Valuations; briefly describe the Approaches and Methods employed.
 - b) Discuss the possible application of various Approaches in the Valuation and explain why each Approach was utilized or not.
 - c) Describe the Methods selected for the Valuation and justify their applicability.
- 15) Valuation.
 - a) Provide an overview of the economic context within which the Valuation is carried out. For Type I and II Mineral Assets this might include comments on the demand for such Assets by junior and major mining companies, and

the availability of financing for exploration work. For Type III and IV Mineral Assets, the current economics of the mining industry and the particular commodity being studied should be discussed. The outlook for commodity prices and the operational cost of mining should be given. Describe the availability and cost of project funding (risk adjusted discount rate). Justify the decision to accept a particular forecast.

- b) Specify currency used and provide any exchange rates utilized.
- c) Discuss and provide an opinion on the inflation rate.
- d) Provide a clear description and analysis of the information utilized, the Valuation Methods followed, and the reasoning that supports the analysis, opinions and conclusions as to value.

16) Valuation Conclusions.

- a) Provide a summary of the Valuation estimates reached using each Method employed. Discuss and explain any significant differences in the Valuation estimates obtained with different Valuation Methods.
- b) State the Valuation conclusions, expressed as a range of values. Discuss any reliance on or weighting of different Valuation estimates used to develop the range of values.
- c) Where a single value is required, discuss the rationale used to select this value within the stated range.
- d) Provide a Risk analysis.

17) References.

- a) Include a detailed list of all sources of information and data cited in the Valuation Report.

18) Certificates and other relevant documents proving the Qualifications, Competence and Professionalism of the Mineral Asset Valuator and the Experts. The Mineral Asset Valuator (MAV) and each Expert who contributed to the Valuation Report must provide a Certificate of qualifications which should include the following information:

- Name, address, job and academic titles.
- Qualifications including relevant to the Mineral Asset in question: experience, education, the name of each Professional Association or Self-Regulatory Professional Association to which the MAV and Expert(s) belong, and a detailed description of the scope of work each of them carried out in the Valuation process.
- Specification of all previous Valuations of the subject Mineral Asset.

Additionally in the Valuation Report should be included:

- a) A detailed specification for which sections of the Valuation Report each Expert is responsible.
- b) Signed declarations of the MAV and all Experts to the effect that they are not aware of any Material fact, information or data not included in the Valuation Report which would make the Report misleading.
- c) Signed declarations of Independence of the MAV and all the Experts.
- d) Detailed information of any prior involvement with the Mineral Asset that the MAV or the Experts may have had.
- e) Declarations:
 - that the Valuation Report has been prepared in accordance with the requirements of the POLVAL Code Standards,
 - the extent to which the Valuation is consistent with the Guidelines,

- that a site visit has been undertaken or not; a site visit report must be attached.
- f) Agreement acceptance protocols, as required.
- g) A Mineral Asset Valuator who is a non-Polish citizen must provide a declaration that he or she has at least 5 years of experience relevant to the subject *Mineral Asset*, is a member in good standing of an approved Independent self-regulatory *Professional Association* and holds appropriate licences and certificates and titles.

(Z) THE CODE OF ETHICS OF A MINERAL ASSET VALUATOR

(Z1) GENERAL PROVISIONS

- (Z1.01) The Code of Ethics of a Mineral Asset Valuator forms an integral part of the Polish Code for Mineral Asset Valuation – the POLVAL Code.
- (Z1.02) A Mineral Asset Valuator (MAV) is a Professional in Valuation of Mineral Deposits, Anthropogenic Deposits and other Mineral Assets, who is licenced to carry out Valuations of the aforementioned Assets, and who:
 - a) is a Polish citizen, a member in good standing of the Polish Association of Mineral Asset Valuators and has a valid MAV Certificate, or
 - b) is a non-Polish citizen holding appropriate licences which has been verified and approved by the Board of the Polish Association of Mineral Asset Valuators, and is a member in good standing of an approved Independent self-regulatory Professional Association.
- (Z1.03) All members of the Polish Association of Mineral Asset Valuators are required to comply with this Code of Ethics in their professional practice as Mineral Asset Valuators. The same applies to Valuators who are non-Polish citizens, with the exception of paragraph (E5).
- (Z1.04) Compliance with the Code of Ethics is mandatory regardless whether a MAV works on his or her own accord or within an institution or a company.
- (Z1.05) Violation of the Code of Ethics will be grounds for disciplinary action by the Association towards its members and disqualifies candidates from being accepted as members.
- (Z1.06) If a member or a candidate violates the Code, criticizes it in public and undermines the confidence in valuation activities carried out by him or her, the conduct shall be regarded as a breach of the ethical norms.

(Z2) INDEPENDENCE OF A MINERAL ASSET VALUATOR

- (Z2.01) A MAV must be unbiased and Independent. The provisions for Independence are specified in (D.25), (S4.02) and (S4.03).
- (Z2.02) Each MAV must disclose any interests in and associations with the Commissioning Entity or any holder(s) of any rights in Mineral Assets which are the subject of the Valuation, which are likely to compromise his or her Independence or create an apprehension of bias. The MAV should clearly and fully describe any prior involvement with the Mineral Assets that he or she may have had.
- (Z2.03) The MAV should retain the right to immediately withdraw from an agreement with the Commissioning Entity should any circumstances occurring after the agreement had been signed compromised his or her Independence or were likely to create an apprehension of bias.

(Z3) QUALIFICATIONS OF A MINERAL ASSET VALUATOR

- (Z3.01) Mineral Asset Valuators shall carry out Valuations with due diligence, applying best professional practices and knowledge. The provisions for a MAV's Competence and Qualifications are specified in (D.18), (D.22), (D.31), (D.37).

- (Z3.02) Mineral Asset Valuers are officials in position of public trust and as such their conduct shall be marked by honesty, reliability, integrity, impartiality and Professionalism.
 - (Z3.03) Mineral Asset Valuation is a complex process. Valuers shall continually strive to advance their knowledge and experience and be up-to-date with scientific and technical developments. Mineral Asset Valuers shall not perform professional services or issue professional opinions in areas which are outside the scope of their knowledge and Competence.
 - (Z3.04) A MAV may employ Expert(s), as defined in (D.11), to assist him (her) in carrying out a Valuation, but is responsible for assuring the Expert(s) Independence, according to (D.25) and (S4.02) and (S4.03), Qualifications and that they are members of an Independent self-regulatory Professional Organisation.
- (Z4) ETHICS OF A MINERAL ASSET VALUATOR
- (Z4.01) Mineral Asset Valuers shall comply with the law of the Republic of Poland and the provisions of the Code for Mineral Asset Valuation – the POLVAL Code.
 - (Z4.02) Mineral Asset Valuers shall act so as to uphold and enhance the dignity of the profession of minerals appraisal.
 - (Z4.03) Mineral Asset Valuers and candidates for Mineral Asset Valuers shall respect social norms and act with dignity, honour and good manners.
 - (Z4.04) Mineral Asset Valuers and candidates for Mineral Asset Valuers shall refrain from any statements, actions and behaviour which may compromise the good perception as to the professionalism of work carried out by the members of the Polish Association of Mineral Asset Valuers. This rule is not binding to non-Polish citizens.
 - (Z4.05) Relations between Mineral Asset Valuers should be marked by courtesy, loyalty, co-operation, and particularly willingness to share knowledge and experience with candidates for Mineral Asset Valuers. This rule is not binding to non-Polish citizens.
 - (Z4.06) A Mineral Asset Valuator shall not perform an assessment of or give an opinion on a Valuation Report prepared by another MAV. This rule does not pertain to circumstances when such assessment or opinion was requested by:
 - 1) the Polish Association of Mineral Asset Valuers,
 - 2) a court of justice or other judicial administrative body or, in the case of Mineral Assets owned by the State Treasury, a relevant governmental body representing the State Treasury.
 - (Z4.07) A Mineral Asset Valuator shall not, in order to win a contract, allege any informal and not publicly known acquaintanceship with or support from a member of the Board of the Polish Association of Mineral Asset Valuers or municipal or national administration.
 - (Z4.08) A Mineral Asset Valuator shall work in the interests of his(her) client or employer and this shall have precedence over any private interests or interests of any third parties.
 - (Z4.09) A Mineral Asset Valuator shall obey the rule of confidentiality and not disclose to any third party any confidential information obtained from or in the course of

performing a Valuation. This rule remains binding after the Valuation has been completed, except with the prior consent of the employer or client or when disclosure is requested by a court of justice or other judicial administrative body. A Mineral Asset Valuator shall not use such information, directly or indirectly, for his (her) own ends.

- (Z4.10) A Mineral Asset Valuator shall not act in a manner which may be perceived as unfair competition, mendacious publicity or advertising. In particular he (she) shall not, coming into knowledge of the fee another MAV negotiated for a particular work, offer to carry out the same work for a lower fee.
- (Z4.11) Advertising material of a Mineral Asset Valuator must be presented in a manner generally regarded as appropriate and socially acceptable and shall not contain anything which may do anything to injure, directly or indirectly, the reputation, prospects or business of other Valuators.

(Z5) ETHICS COMMISSION

- (Z5.01) Observance of the ethical rules is enforced by the Ethics Commission of the Polish Association of Mineral Asset Valuators.
- (Z5.02) The Ethics Commission is empowered to:
 - 1) settle disputes between Valuators which are related to the activities of the Association and investigate grievances, complaints and proposals brought forward by third parties,
 - 2) recommend to revoke a membership in the Association,
 - 3) provide opinion on candidates for membership in the Association,
 - 4) provide opinion on expediency of carrying out a reasonableness test in accordance with (D.38).
 - 5) inform the Board of any known problems related to ethics.
- (Z5.03) The Ethics Commission may recommend that a member is expelled from the Polish Association of Mineral Asset Valuators or object to granting membership to a candidate if such a person:
 - 1) has membership fee arrears of more than 12 months,
 - 2) was involved in any activity which is or may be harmful to the Association,
 - 3) is found guilty of violating any provisions of this Code,
- (Z5.04) The provisions of paragraph (Z5) are not applicable to non-Polish citizens who are subject to the codes of ethics of the organizations of which they are members.