Public Exposure Draft

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AUSTRALASIAN CODE FOR PUBLIC REPORTING OF TECHNICAL ASSESSMENTS AND VALUATIONS OF MINERAL AND PETROLEUM ASSETS

THE VALMIN CODE

AUSTRALIAN INSTITUTE OF GEOSCIENTISTS

Supporting Geoscientists

AusIMM

THE MINERALS INSTITUTE

Prepared by:

The VALMIN Committee, a joint committee of The Australasian Institute of Mining and Metallurgy and the Australian Institute of Geoscientists.

Preface

The Australasian Code for the Public Reporting of Technical Assessments and Valuations of Mineral and Petroleum Assets (VALMIN Code) has been prepared by the VALMIN Committee, a joint committee of The Australasian Institute of Mining and Metallurgy (AusIMM) and the Australian Institute of Geoscientists (AIG), with the participation of the Minerals Council of Australia (MCA) and the participation of other key stakeholder representatives.

There have been three previous versions of the VALMIN Code, the first applicable from 1 July, 1995, the second applicable from 1 April, 1998 and the third applicable from 29 April 2005.

The VALMIN Code provides a set of fundamental principles (Competence, Materiality and Transparency), mandatory requirements and supporting recommendations accepted as representing good professional practice to assist in the preparation of relevant Public Reports on the Technical Assessment and/or Valuation of Mining/Petroleum Assets. The VALMIN Code provides guidance on matters that may be subject to the Australian regulations, other provisions of law, the published policies and guidance of the Australian Securities and Investments Commission (ASIC) and the Listing Rules of the Australian Securities Exchange (ASX) or of other relevant securities exchanges.

Terminology

Definitions of introductory terms are listed at the end of the VALMIN Code. Definitions that are associated with the VALMIN Code's fundamental principles and minimum requirements are incorporated in the text are printed in **bold**. The word **'must'** denotes a VALMIN Code requirement that is mandatory and must be complied with. The use of the word 'should' indicates that some discretion may be employed. This discretion depends on the particular circumstances of a Public Report and providing that the VALMIN Code's fundamental principles are not transgressed. Words with an initial capital indicate a defined term. Paragraphs in italics are provided as Guidelines only. The singular includes the plural and vice versa. The terms Resource and Reserve are used to simplify the document for use in minerals and petroleum; from time-to-time these stand-alone terms in the VALMIN Code mean either Mineral Resource/Reserve or Petroleum Resource/Reserve, as appropriate.

Disclaimer

The VALMIN Code does not constitute legal advice and may not consider all matters relevant to the preparation of a Public Report or the Technical Assessment and/or Valuation of Mineral and Petroleum Assets. It is the responsibility of Practitioners to determine their legal obligations for each Technical Assessment and/or Valuation and for the preparation of a Public Report and to seek legal advice when necessary.

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1. Introduction

1.1. Purpose

The purpose of the Australasian Code for the Public Reporting of Technical Assessments and Valuations of Mineral and Petroleum Assets (VALMIN Code) is to provide a set of fundamental principles, minimum requirements and supporting recommendations accepted as representing good professional practice to assist in the preparation of relevant Public Reports on the Technical Assessment and/or Valuation of Mining/Petroleum Assets (clauses 5, 6 and 7). The VALMIN Code is based on international good practices as currently employed in the mineral and petroleum industries but allows for professional judgement in certain instances.

The resulting Public Reports **must** be reliable, thorough and understandable, and include all the Material information required by investors and their advisers when making investment decisions. AIG and AusIMM members must adhere to the VALMIN Code regardless of where or for whom the Public Reports are prepared or the location of the Mineral/Petroleum Assets under consideration.

1.2. Context

The VALMIN Code is designed to fit within the Australian regulatory framework comprising the Corporations Act, as well as various ASIC Regulatory Guidelines and ASX Listing Rules. It is a companion to the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (JORC Code). Any references to the JORC Code relate to the 2012 edition or any subsequent edition that replaces the JORC Code 2012 edition.

Refer to www.valmin.org for further information.

(a) Corporations Act

The Corporations Act 2001 (Cth) is the legislation that has the principal legal influence on the themes of the VALMIN Code. The Corporations Act sets out laws dealing with Australian companies and corporate activity in Australia.

Refer to www.comlaw.gov.au for further information.

(b) ASIC Regulatory Guidelines

The ASIC Regulatory Guidelines (RG) provides guidance to regulated entities by:

(i) explaining when and how ASIC will exercise specific powers under legislation (primarily the Corporations Act)

(ii) explaining how ASIC interprets the law

(iii) describing the principles underlying ASIC's approach

(iv) giving practical guidance (for example, describing the steps of a process such as applying for an Australian Financial Services Licence (AFSL), or providing practical examples of how regulated entities may decide to meet their obligations).

At the time of drafting the VALMIN Code the key guidelines for the preparation of Public Reports relating to Mineral/Petroleum Assets include but are not limited to:

(i) RG 55 – Statements in Disclosure Documents and PDSs: Consent to Quote

(ii) RG 111 – Content of Expert Reports

(iii) RG 112 – Independence of Experts

(iv) RG 170 – Prospective Financial Information

(v) RG 228 – Prospectuses: Effective disclosure for retail investors

(vi) RG 230 – Disclosing non-IFRS financial information

(vii) ASIC Class Orders CO 07/428 and 429 – Consent to Quote

Refer to www.asic.gov.au for further information and recent updates.

(c) ASX Listing Rules

The ASX Listing Rules set out the requirements that must continuously be met by all listed corporations in order to be listed on the ASX. The ASX Listing Rules include:

(i) continuous disclosure obligations, which require companies to immediately notify the ASX of any information that may affect the share price of the company

(ii) rules governing how new share issues must be carried out

(iii) guidance as to how share registries and registration should be maintained.

(iv) Mining and petroleum specific reporting requirements, under Chapter 5 which reference the JORC Code and Society of Petroleum Engineer's Petroleum Reserves Management System (SPE-PRMS).

For further information refer to www.asx.com.au.

(d) JORC Code

The JORC Code sets out minimum standards, recommendations and guidelines for Public Reports in Australasia of Exploration Results, Mineral Resources and Ore Reserves. The ASX incorporated the JORC Code into Chapter 5 of the Listing Rules to enforce that a Public Report concerning Exploration Results, Mineral Resources or Ore Reserves **must** be prepared in accordance with the JORC Code.

The JORC Code is binding on any Member of the AIG and the AusIMM.

For further information refer to www.jorc.org.

(e) Petroleum Resources Management System

The SPE-PRMS is the petroleum industry's global standard for resource and reserve classification and reporting. SPE-PRMS is referenced in Chapter 5 of the ASX Listing Rules and Public Reports concerning petroleum exploration, Resources or Reserves **must** be prepared in accordance with that system.

Refer to www.spe.org/industry/reserves.php for further information.

1.3. Scope

As of {*drafting note: date to be inserted*}, this version of the VALMIN Code is binding on Members of the AusIMM and AIG. Members of Recognised Professional Organisations may be bound by VALMIN or a compatible code.

The VALMIN Code applies in any particular circumstance only if, and to the extent that it is not inconsistent with the Corporations Act or other provisions of Australian law, ASIC policy and guidance, the ASX Listing Rules or the requirements of the relevant recognised securities exchange.

The VALMIN Code is considered to be broadly consistent with relevant international codes (ie SAMVAL – South African Code for the Reporting of Mineral Asset Valuation, CIMVAL – Canadian Institute of Mining Valuation of Mineral Properties and CRIRSCO - Committee for Mineral Reserves International Reporting Standards template), in terms of fundamental principles and general approach. VALMIN Practitioners preparing Technical Assessments and

for Valuation of Mineral/Petroleum Assets in jurisdictions other than Australia should be aware of and take note of the specific content of relevant codes other than VALMIN.

Refer to www.samcode.co.za, www.cimval.org, www.ivsc.org and www.crirsco.com for further information.

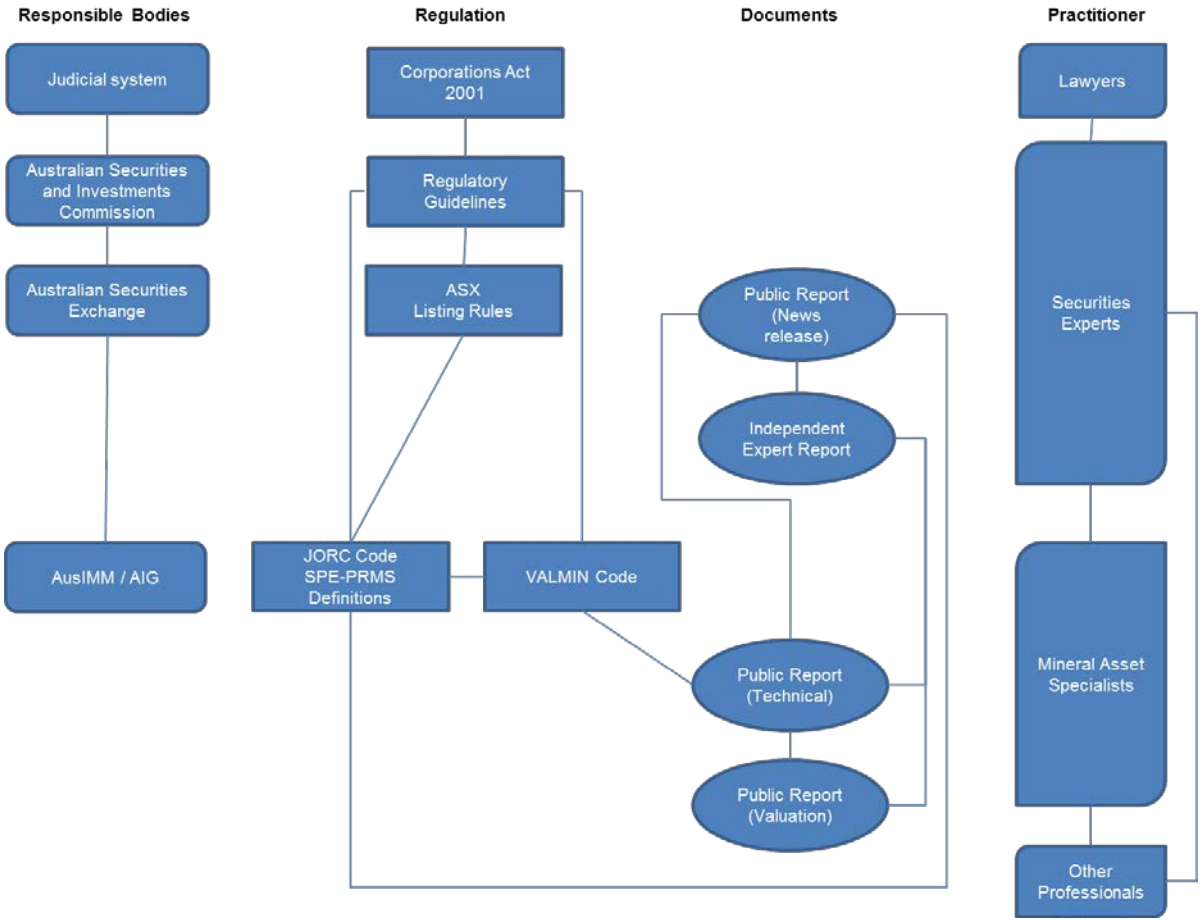

Figure 1: General relationship between VALMIN Practitioners, Public Reports and governing rules

2. VALMIN Practitioners

2.1. Who is a Practitioner?

A **Practitioner** is a collective term for persons preparing Technical Assessment and/or Valuation Reports of Mineral/Petroleum Assets intended for public release. It includes Securities Experts, Specialists and Professionals.

The Corporations Act defines an **Expert** as a person whose profession or reputation gives authority to a statement made by him or her in relation to a matter. The following categories of Expert are recognised and are broadly aligned with ASIC Regulatory Guide 112:

(a) **Securities Experts** are persons whose profession, reputation or experience provides them with the authority to assess or value Securities in compliance with the requirements of the Corporations Act, ASIC Regulatory Guides and ASX Listing Rules.

(b) **Specialists** are persons whose profession, reputation or general mining or petroleum industry experience in a technical discipline (such as geology, mine engineering, metallurgy or petroleum engineering) provides them with the authority to assess or value Mineral/Petroleum Assets.

(c) **Professionals** are persons who may be retained by the Specialist to prepare sections of Public Reports concerning matters about which the Specialist is not personally Competent.

Importantly, should the Practitioner meet the relevant criteria as outlined in clause 2.2, the Securities Expert and Specialist may be one in the same person. Furthermore, a Securities Expert or Specialist may be either an individual who prepares and accepts responsibility for a Public Report; or a **Representative Specialist** who is the nominated representative of a legally constituted body. He or she supervises the preparation of a Public Report and accepts responsibility for it on behalf of that body.

2.2. Requirements of Practitioners

A Securities Expert **must** hold relevant authority (such as an Australian Financial Services Licence).

A Specialist **must**:

(a) be Competent in and have had at least five years of recent and relevant general mining/ petroleum industry experience

(b) have at least five years of recent and relevant experience in Technical Assessment, and where a Valuation is being prepared, have at least an additional five years (totalling a minimum of ten years) of recent and relevant experience in the valuation of Mineral/Petroleum Assets

(c) be a member of a Professional Organisation with an enforceable professional Code of Ethics and understand that a violation of the VALMIN Code may result in an investigation in accordance with the rules of the Professional Organisation

(d) be familiar with the VALMIN Code, the JORC Code or any relevant Petroleum Codes, the relevant requirements of the Corporations Act, the public policies of ASIC, ASX and/or other recognised securities exchanges and court decisions that may be relevant to the Public Report being prepared.

If the Specialist is preparing a report on Petroleum Assets, the relevant experience **must** be with Petroleum. If it is a report on Mineral Assets, the relevant experience **must** be with Minerals. If the Specialist is reporting on assets that are entirely of an early-stage or advanced exploration status, the relevant experience **must** be in the Technical Assessment and Valuation of assets of this status. If the assets of which one or more are of Pre-development or more advanced status, the relevant experience **must** be in the Technical Assessment and Valuation of assets of at least this level of development.

> *The key qualifier in the definition of a Specialist is the word 'relevant'. Determining what constitutes relevant experience can be difficult and common sense has to be exercised. 'Relevant' also means that it is not necessary for a person to have five years' experience in each and every type of Mineral deposit under consideration in order to act as a Specialist if that person has relevant experience in other mineral types. Nevertheless, an understanding of key geological, mining, processing, social, and marketing parameters and risks for the specific Minerals or Petroleum under consideration is required.*
>
> *As a general guide, persons being called upon to act as Specialists should be clearly satisfied in their own minds that they could face their peers and demonstrate competence in the appraisal of the asset under consideration. If doubt exists, the person should either seek opinions from appropriately experienced colleagues or decline to act as a Specialist.*
>
> *Preparation of a Technical Assessment or Valuation may be a team effort that involves several technical disciplines. It is recommended that, where there is clear division of responsibility within a*

team, each Specialist's contribution be identified and responsibility accepted for that particular contribution. If only one Specialist signs the Technical Assessment or Valuation, that person is responsible and accountable for the whole of the documentation under the VALMIN Code. It is important in this situation that the Specialist accepting overall responsibility for a Technical Assessment or Valuation and supporting documentation is satisfied that the work of the other contributors is acceptable.

A Professional **must**:

(a) be Competent in relevant technical, commercial, financial or legal fields associated with the Mining or Petroleum Industries

(b) have at least five years of relevant and recent experience in their field

(c) accept responsibility for the sections of the report

(d) be a member, in good standing, of a professional organisation having an enforceable professional Code of Ethics.

2.3. Licences

Where a Securities Expert participates in a Valuation of, or is seen to be providing advice in relation to, Mineral/Petroleum Securities (as opposed to the valuation of the underlying related Mineral/Petroleum Assets), or provides a Vendor Consideration Opinion, they **must** hold appropriate financial licences. In Australia, this is an AFSL as required by Chapter 7 of the Corporations Act.

3. Code Principles

3.1. Competence

(a) Requirement

Competence or being **Competent** requires that the Public Report is based on work that is the responsibility of suitably qualified and experienced persons who are subject to an enforceable professional Code of Ethics.

(b) Responsibility

The Technical Assessment and Valuation of Mineral/Petroleum Assets by a Specialist and Professional requires Competence in the relevant technical and commercial disciplines. Depending on the nature of the Public Report involved, Competence in geoscience, engineering, metallurgy, environmental assessment, geopolitics, finance, tax, the law, commerce and the Modifying Factors may all be required. Therefore, a Specialist **must** be involved in the preparation of such Public Reports and may be required to seek assistance from other relevant Professionals.

Practitioners **must** be able to demonstrate to the Commissioning Entity and those entitled to receive a Public Report that they are sufficiently Competent to prepare and/or contribute to the Public Report.

In order to ensure that a Public Report on Mineral/Petroleum Assets is competently prepared and authoritative, the Specialist **must** take overall professional responsibility for its preparation and contents.

3.2. Materiality

(a) Requirement

Materiality is the overriding principle in determining whether or not information and data should be used in a Public Report. This term applies to both the nature of the items assessed in a Public Report and to their influence on a Technical Assessment or Valuation.

(b) Responsibility

All assumptions, including appropriate reference to other confidential information that is not disclosed as described in clause 6.5, regarding Material, technical and commercial parameters, the risks associated with those assumptions and the valuation methods used **must** be set out clearly in the Public Report. Any departures from the VALMIN Code **must not** be Material such as to affect the Technical Assessment or Valuation and **must** be disclosed and justified in the Public Report.

Where it is impossible or impracticable to obtain sufficiently accurate or reliable data, this **must** be stated in the Public Report by the Securities Expert, Specialist or Professional. In these circumstances, the Practitioner should not express an opinion and/or provide a Public Report.

> *Additional detail on the Australian regulatory requirement can be found in ASIC Regulatory Guide, (as at the date of this Code) RG 111.*

(c) Determination

The determination of what is Material depends on both qualitative and quantitative factors. A parameter may be Material in the qualitative sense because of its very nature, (for example country risk). Practitioners should determine that all Material information is considered.

A general rule in determining if information is Material is:

- '… if its omission or misstatement could influence the economic decisions of users taken on the basis of the Public Report' (International Accounting Standard Committee, 1989)

Guidance for the determination of materiality as a percentage variation can be found in the Australian Accounting and International Financial Reporting Standards:

- *an amount that is equal to or greater than 10% may be presumed to be material unless there is evidence or a convincing argument to the contrary*
- *an amount that is equal to or less than 5% may be presumed to not be material unless there is evidence or a convincing argument to the contrary.*

Two tests should be used in determining whether an item is Material:

- a qualitative test; that is, the nature of the item and whether knowledge of it would influence the economic decisions of investors.

  Guidance on qualitative factors may be found in the ASX Listing Rules, (as at the date of this Code) Guidance Note 31.

- a quantitative test (a percentage variation). This is an area that requires a degree of professional judgment to identify information that is relevant and to determine between information that is 'need to know' and that which is 'nice to know'.

3.3. Transparency

(a) Requirement

Transparency or being **Transparent** requires that the reader of a Public Report is provided with information that is clear and unambiguous, so as to understand the report and not be misled by this information or by omission of material information.

(b) Responsibility

Both the process and Public Report **must** be as Transparent, objective and rigorous as the data and other Material information available to the Practitioner will allow. The conclusion of a Public Report will depend on a number of key assumptions that the Practitioner **must** reasonably disclose and discuss how they interact with each other. This may include the assessment of Resources, Reserves, extraction, mining, processing, marketing issues and Modifying Factors; the approach adopted; and the methodology or methodologies used, which **must** be clearly set out in the Public Report. Where it is not possible to provide an appropriate description the reason for not doing so should be presented on an 'if not, why not basis'.

4. Additional requirements

4.1. Reasonableness

(a) Requirement

Reasonableness or being **Reasonable** implies that an assessment which is impartial, rational, realistic and logical in its treatment of the inputs to a Valuation or Technical Assessment has been used, to the extent that another Practitioner with the same information would make a similar Technical Assessment or Valuation.

(b) Responsibility

A **Reasonableness Test** means the Practitioner **must**:

(a) Perform an impartial assessment to determine if the overall approach, method and Valuation, or Technical Assessment used is Reasonable. Such a test will serve to identify Technical Assessments or Valuations that may be out of line with industry standards and norms;

(b) meet the Reasonable Grounds Requirement;

(c) make a positive statement that the inputs, assumptions, approaches, methods and Technical Assessment or Valuation are based on reasonable grounds; and

(d) not disclaim liability for the Valuation Approach, Valuation Method and Valuation, or Technical Assessment.

Guidance on making positive statements can be gained from ASIC Regulatory Guides, (as at the date of this Code) RG 111 and RG 170.

(c) Determination

The test for whether reasonable grounds exist is objective. Income-based Valuations involve statements about future matters.

Sections of the Corporations Act and sections of the Australian Securities and Investments Commission Act require statements about future matters to be based on reasonable grounds, (as of the date of making the statement), or else they will be taken to be misleading.

Guidance on the Reasonable Grounds Requirement can be found in the Corporations Act, (as at the date of this Code) Sections 670A(2), 727(2) and 769(C) and the Australian Securities and Investment Commission Act, (as at the date of this Code) Section 12BB.

The Reasonable Grounds Requirement extends to all mineralisation as well as the Modifying Factors which have to be applied.

A Public Report **must** not be provided unless a suitably objective Reasonableness Test is applied.

4.2. Independence

(a) Requirement

Independence or being **Independent** means that there is no present or contingent interest in the Asset(s) or Mineral/Petroleum Assets, nor is there any association with the Commissioning Entity or related parties that is likely to lead to bias.

Where the legal definition of Independence or Independent differs from the above, the legal definition takes precedence.

(b) Responsibility

Independence is not a formal requirement under the VALMIN Code. However Practitioners **must** familiarise themselves and **must** conform to the relevant statutory and regulatory definitions and requirements of independence in the relevant jurisdictions.

The Corporations Act and ASIC Regulatory Guidelines are to the effect that Practitioners **must** be, and **must** appear to be Independent when preparing reports for certain transactions In addition, an AFSL Licensee must comply with conflict management provisions.

ASIC will determine whether an expert is independent and whether disclosures in relation to this are adequate, as per ASIC Regulatory Guide (as at the date of this Code) RG 112.

(c) Disclosure

In order to support a declaration of Independence or to enable Practitioners to assess whether or not they may be deemed to be Independent, they **must** disclose any interest that could be seen as compromising their Independence. Such disclosures:

(i) **must** be made as early as possible to the Commissioning Entity

(ii) **must** be prominently included in the Public Report

(iii) must include declaration of any previous reports that the Specialist or Professional have prepared relating to the assets being assessed or valued.

(iv) will not absolve a Specialist or Professional from any legal requirement to be Independent.

A Specialist or Professional previously engaged by the Commissioning Entity or an associated party should not necessarily be considered to have their Independence impaired. Each circumstance should be assessed taking into account the facts of the matter.

5. Public Reports

5.1. Intention of a Public Report

The intent of a Public Report is to gather, summarise and interpret the Material information related to the Mineral/Petroleum Assets under consideration along with the opinions of the Practitioners, which are to be presented clearly, concisely and accurately.

The Specialist should state in the Public Report its specific purpose (and that of any subsidiary reports), its terms of reference and if there are any limitations on its use for other purposes.

Public Reports may include:

(a) Technical Assessment Reports

(b) Valuation Reports

(c) Independent Expert Reports

(d) News releases relating to points (a), (b) or (c).

5.2. Report content

(a) Clear, concise and effective

Public Reports should be worded and presented in a clear, concise and effective manner. This applies to both the wording of information (for example, choice of language) and the presentation (for example, choice of communication tools) of a Public Report. Specialists and Professionals **must** be aware of the wording and presentation requirements of the relevant jurisdiction.

> *In Australia, guidance on this matter may be obtained from documents including ASIC Regulatory Guide (as at the date of this Code) RG 228 , which directly references the VALMIN Code.*

Detailed technical information and data **must** be included in the Public Report if it is Material to the Technical Assessment or Valuation. Explanations of unusual or new technical processes and activities that may be Material to the understanding of the Technical Assessment or Valuation should be included. The use of tables, maps, graphical presentation and a glossary of terms and acronyms is encouraged.

(c) Information

A Public Report **must** contain all the information that the Commissioning Entity (and others, including investors and their professional advisors) would reasonably require and expect to find to make an informed decision about the subject of the Public Report. For example:

(i) An executive summary setting out the key data, important assumptions made and conclusions drawn by the Specialist and/or Professional

(ii) a summary of contributing authors to the report and areas of responsibility within the report. This summary should outline the names, qualifications and relevant experience of the Securities Expert/Specialist and Professional

(iii) the Public Report date and/or effective Valuation date, where different

(iv) the relevant currency used in any Valuation

(v) description of the relevant Mineral/Petroleum Assets, including their location, plant, equipment, infrastructure and ownership

(vi) an account of the Material history of the Mineral/Petroleum Assets

(vii) a balanced, impartial statement of the Securities Experts/Specialist's review and conclusions so that an informed person can have a clear understanding of the merit of the Mineral/Petroleum Assets, their value (if applicable) and associated risks

(viii) information regarding the sources of data used

(ix) sufficient information to convey how the Public Report was prepared, including details (summarised if appropriate) of the valuation approaches employed

(x) sufficient information about the Valuation approaches and methods used so that another Specialist can understand and replicate the outcome

(xi) review of any other matters that are Material to the Public Report

(xii) reliance on third party personnel and/or disclaimers

(xiii) outline any areas within a report of non-conformance with the VALMIN Code and the impact on Materiality on the Public Report.

The Securities Expert/Specialist and Professional **must** be familiar with the content requirement of the relevant jurisdiction.

In Australia, guidance pertaining to a Public Report's content may be obtained from ASIC Regulatory Guide, (as at the date of this Code) RG 111.

(d) Sources

The Securities Expert/Specialist or Professional **must** state the sources of all Material information and data used in preparing a Public Report. Subject to any confidentiality, regulatory requirements and consents, references to the relevant published and unpublished reports and records **must** be provided. It may also be necessary to cite reports, data and records that were either available or known to the Securities Expert/Specialist or Professional that were possibly Material but not used, and the reasons why they were not used.

Practitioners should ensure that summaries of existing reports that have been prepared by others are accurate, with any quotations used being in the form and context intended by the original authors. The Securities Expert/Specialist and Professional **must** be familiar with the consent requirements of the relevant jurisdiction.

In Australia, guidance on obtaining consent to quote other authors can be found at ASIC Regulatory Guide (as at the date of this Code) RG 55 and ASIC Class Orders CO 07/428 and 429.

Securities Expert/Specialists and Professional **must** not rely uncritically on the data and information. They **must** undertake suitable checks, enquiries, analyses and verification procedures to establish reasonable grounds for the soundness of the inputs that lead to the conclusions drawn in a Public Report.

The data and information **must** not have been rendered invalid due to the passage of time and circumstance at the date of the technical assessment and/or valuation. Such changes may include capital and operating cost structures, exploration techniques, geological interpretation and mining and metallurgical technologies.

(e) Responsibility

The Securities Expert/Specialist **must** accept responsibility for assessing the technical data and information, interpretations, discussions and conclusions, forecasts and parameters used in a Technical Assessment and/or Valuation of a Mineral/Petroleum Asset. For Mineral/Petroleum Asset Valuations undertaken by the Securities Expert/Specialist, the Securities Expert/Specialist **must** also accept responsibility for the Valuation Approach, Valuation Methods and outcomes.

Technical Assessments and Valuations of Mineral/Petroleum Assets may be a team effort. Where there is a clear division of responsibilities within a team, each person **must** accept responsibility for their own contribution.

The Securities Expert/Specialist **must** clearly state within the Public Report under what conditions the work of other third parties has been relied upon and identify such other persons.

(f) Figures, maps, diagrams and tables

A Public Report should include appropriate photographs, plans, diagrams, graphs and maps, including one showing the geographical location of the Mineral/Petroleum Asset in relation to a capital city or major town. Maps, plans or other graphic information should be sufficient to illustrate the geology and other pertinent features, including the location of the Mineral/Petroleum Assets under consideration. In particular, a map should show local landmarks and boundaries, dimensions and location relative to nearby projects that may have a significant bearing on the Mineral/Petroleum Asset.

Maps and graphics in a Public Report should:

(i) be of a suitable scale and with a recognised co-ordinate system (ie. latitude/longitude, UTM)

(ii) show a bar scale and a direction arrow pointing north, designated as either magnetic, true or grid north; if grid north is shown, it should be in relation to either true or magnetic north

(iii) show key area infrastructure where appropriate (i.e. ports, roads, power and water supply)

(iv) be readable and prepared so that no data is lost or obscured if it has been reduced in size for printing

(v) if showing Exploration Results, be of such a scale so as to assist in the assessment of sampling and other exploration procedures

(vi) use standard industry symbols such as those outlined in the AusIMM's Field Geologist's Manual, Monograph 9

(vii) where the exploration potential of Tenure is based on the results of geophysical or geochemical surveys, some form of graphical interpretation showing the results and interpretations of the surveys should be included in the Public Report.

5.3. Technical Assessment Reports

Technical Assessments are appraisals of the technical aspects of a Mineral/Petroleum Asset. Further details are provided in clause 7.

Technical Assessment Reports involve the Technical Assessment of elements that may affect the economic benefit of a Mineral/Petroleum Asset including but not limited to:

(a) tenure

(b) geology

(c) Resources, Reserves and Exploration Targets

(d) engineering

(e) processing and recoveries

(f) infrastructure

(g) capital and operating costs

(h) actual and/or projected production

(i) environmental, social and heritage impacts

(j) other aspects and JORC Modifying Factors that could reasonably be expected to impact on the economic potential.

5.4. Valuation Report

A **Valuation Report** expresses an opinion as to Market Value of a Mineral/Petroleum Asset but specifically exclude commentary on the value of any related securities. Further details are provided in clause 8.

5.5. Independent Expert Report/Specialist Report

An **Independent Expert Report** is a Public Report as may be required by the Corporations Act, the Listing Rules of ASX or other security exchanges. A report will only be an Independent Expert Report when the Practitioners are independent of the Commissioning Entity and are perceived and acknowledged to be so by the Commissioning Entity.

When an Independent Expert Report requires a Technical Assessment and/or Valuation of Mineral/Petroleum Assets (the Specialist Report), the Specialist Report **must** be prepared by a Specialist. The assistance of Professionals may be necessary, depending on whether or not the Specialist has expertise in all aspects of the Technical Assessment and/or Valuation, and on the magnitude of the task. A Specialist **must** take overall responsibility for the physical preparation and contents of a Specialist Report.

The VALMIN Code applies to the Technical Assessment and Valuation of Mineral/Petroleum Assets for any Specialist Report issued for the purpose of informing potential investors and their professional advisors, satisfying legal and regulatory policy or to meet the requirements of a securities exchange. These purposes include but are not limited to:

(a) compensation for compulsory acquisitions

(b) protection of the rights of shareholders in transactions between associated parties

(c) a public float

(d) fairness and reasonableness reports relating to an expressed opinion on a proposed acquisition or disposal of asset

(e) the justification for raising debt or equity finance from an outside party

(f) facilitating negotiations between partners

(g) the assessment of Government charges and taxes

(h) estate settlements

(i) litigation

(j) reports for receivers and administrators

(k) accounting and financial reporting.

6. Commissioning a Report

6.1. Written engagement

The Securities Expert, Specialist and/or Professionals **must** enter into a written agreement with the Commissioning Entity. This may be by an exchange of letters specifying the terms governing the preparation of a Public Report.

This written agreement should include contractually binding Terms of Engagement from the Commissioning Entity that were agreed upon prior to the commencement of the report. The Terms of Engagement should specify the requested information required to complete the exercise in accordance with the VALMIN Code.

6.2. Scope

The written agreement with the Commissioning Entity should cover the Scope and purpose of the Public Report. The agreement should address such matters as:

(a) the purpose of the Public Report

(b) names, qualifications and relevant experience of the Specialist and Professional(s)

(c) an acknowledgement of the Independence and Competence of the Specialist and Professionals

(d) the effective date as agreed by the Commissioning Entity and the Specialist

(e) name(s) or title(s) of the subject of the Public Report and of the Mineral/Petroleum Assets

(f) the basis for the cost of the Public Report

(g) when the Specialist may refuse to provide an opinion or report as it is impossible or impractical to obtain sufficient accurate or reliable data or information

(h) the Professional(s) to be engaged, their terms of engagement and the areas in which they are to contribute to the Public Report

(i) the right and obligation of the Specialist and Professional(s) to base findings on information within their own knowledge or acquired as a result of their own investigations, as well as on the information provided by the Commissioning Entity

(j) advice on the how the Specialist is obliged to conform with the VALMIN Code

(k) a program for the progress and completion of the Public Report. This may include the dates for the completion of intermediate activities, the provision of data and information by the Commissioning Entity, the review of data and information by the Specialist and Professional(s) and the issuing of a draft of the Public Report to the Commissioning Entity

(l) notification that the Specialist and Professional(s) should keep records of discussions with the Commissioning Entity, a list of all documents to be referred to in the Public Report, copies of all Material source documents and due diligence notes

Further guidance on keeping records may be found in ASIC Regulatory Guide (as at the date of this Code) RG 112.

(m) the provision of draft reports is for the purpose of factual checking by the Commissioning Entity

Guidance on the provision of draft reports may be found in ASIC Regulatory Guide (as at the date of this Code) RG 112.

6.3. Cost

The cost of a Public Report will normally reflect the complexity of the Technical Assessment or Valuation, the amount of and state of the data available and the specific assessment or valuation difficulties encountered. Fees or the provision of further work to the Specialist or Professional(s) **must** not be dependent on the:

(a) conclusions of the Technical Report

(b) success or failure of the reason for which the Public Report was commissioned.

Time and cost constraints **must** not compromise the fundamental principles and requirements of the VALMIN Code. Any restrictions negatively affecting the depth of analysis or the extent of detail required **must** be recorded in the Public Report.

The cost of providing the Public Report **must** be disclosed.

6.4. Provision of previous reports

The Specialist **must** seek from the Commissioning Entity the results of any Public Report it commissioned with respect to the Valuation of the Mineral/Petroleum Assets in question that could reasonably be considered to be Material. If any Material Public Report is not presented to the Specialist and Professionals, then any resultant reports **must** be qualified accordingly. A Specialist or Professional should make written enquiries of the directors and/or management of the Commissioning Entity about any other prior relevant technical, valuation or similar assessment reports. The Specialist and/or Professional(s) should interview relevant personnel and review the Commissioning Entity's database, responses to enquiries, reports and all other information and data relevant to the Public Report.

6.5. Confidential information

Some of the information that a Commissioning Entity holds concerning the subject matter of a Public Report may be regarded as confidential (such as offtake agreements for mineral concentrates). Therefore it may not appear in a public version of a Public Report, even though it may be taken into account in the Technical Assessment and/or Valuation. However, there is no express exception in the Corporations Act for disclosing confidential information in Public Reports prepared under the VALMIN Code and disclosure may be required.

The Specialist **must** get written confirmation from the Commissioning Entity as to whether any information is confidential. The Specialist and Professional(s) **must** be satisfied that all relevant confidential information has been made available to them by the Commissioning Entity. The Specialist **must** then inform the Professional(s) of any confidential information requirements. The Specialist or Professional(s) **must** review what aspects of the information needs to be disclosed in the Public Report. Where certain information is to be omitted, the Specialist or Professional **must** indicate in the Public Report the extent and impact of the information regarded by the Commissioning Entity to be confidential that is not disclosed in the Public Report. Where a Specialist or Professional cannot adequately support an opinion by careful disclosure without revealing Material confidential information, the Specialist or Professional should not provide a Public Report. If in doubt, legal advice should be sought.

7. Technical Assessments

A **Technical Assessment** is an appraisal prepared by a Specialist or Professional of the technical aspects of a Mineral/Petroleum Asset. Depending on the development status of the Mineral/Petroleum Asset, a Technical Assessment may include the review of geology, Resources, Reserves, mining methods, metallurgical processes and recoveries, petroleum engineering, provision of infrastructure and environmental aspects.

7.1. Study terminology

The various levels of assessment commonly use the following terms**:** Life-of-Mine Plan, Mineable, Mine Design, Mine Planning and Modifying Factors**.** Definitions of each of these terms can be found in the Glossary. The terminology used in a Public Report must be consistent with the Glossary definitions and the JORC Code.

7.2. Tenure Status

The status of Tenure is Material and requires disclosure. Determination of the status of Tenure is necessary and **must** be based on a sufficiently recent independent inquiry to ensure

that the information is accurate for the purposes of the Public Report in question. This inquiry may be either by the Specialist or a Professional, or on a recent report by either a solicitor or a Tenure Professional who would qualify as being a 'Professional' as described in clause 2.1.

A Public Report should contain a list of all Tenure Material to the Report, prepared by or on behalf of the Specialist or Professional, unless that information is provided in an accompanying report. A tenure list or an accompanying discussion should deal with the topics stated in Table 1 of the JORC Code, in addition to Material information which may include:

(a) Tenure area, expiry and renewal dates

(b) expenditure commitments, rents and rates

(c) Material obligations to any third party

A Public Report should list by title and location any contiguous and geologically related Tenure that may have a Material bearing on the value of the Tenure under consideration.

7.3. Targets

In addition to the Technical Studies defined in the JORC Code, early stage assessment can lead to the use of the following terms:

(i) **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 Mineral Resources. Practitioners are referred to the JORC Code for further details relating to Exploration Targets.

(ii) **Production Target –** is a projection or forecast of the amount of minerals or hydrocarbon to be extracted from particular tenure for a period that extends past the current year and the forthcoming year. Production Targets are regulated by the ASX.

Exploration Targets and Production Targets involve forward looking information, on which the Corporations Act stipulates there **must** be reasonable grounds.

7.4. Mineralisation, Mineral Resources and Ore Reserves

(a) Definitions

Mineral Resources and Ore Reserves has the same meaning as in the current version of the Australasian Code for the Reporting of Exploration Results, Mineral Resources and Ore Reserves (the JORC Code).

Petroleum Resources and Petroleum Reserves has the same meaning as in the current version of the Petroleum Reserves Management System (PRMS) published by the Society of Petroleum Engineers (SPE), World Petroleum Congress (WPC) and the American Association of Petroleum Geologists (AAPG). The SPE-PRMS provides a petroleum resources classification framework encompassing Production, Reserves, Contingent Resources, Prospective Resources and Unrecoverable quantities of Petroleum.

(b) Quality and reasonableness

The Specialist or Professional **must** comment on the quality and reasonableness of any Resources and/or Reserves estimates. The extent to which they have been reported in accordance with the ASX Listing Rules and the JORC Code or SPE-PRMS **must** be presented.

Where estimates are not considered to meet the minimum reporting criteria set out in the ASX Listing Rules and the JORC Code or SPE-PRMS, the reasons for having to base a Public

Report on such estimates **must** be detailed in the Public Report. An assessment of the quality of such estimates with respect to the JORC Code or SPE-PRMS requirements **must** also be provided.

(c) Correlation and causation

Where mineralisation or an indication of petroleum on a nearby property is noted in the Public Report, maps and/or sections should indicate the relationship of its geology to that of any Tenure that is the subject of the Public Report.

Where comparisons are made with geological situations at known Mineral or Petroleum occurrences, all relevant factors should be presented. Where a causal relationship such as continuity of geological structures is claimed, the Specialist or Professional should clearly show how the claimed continuity is considered relevant to the Public Report. Where a comparison has been made and no causal relationship is claimed, this should be stated.

> *The absence of mineralisation or petroleum on adjoining or nearby Tenure may be as important as its presence. When Material to a Public Report, the Specialist or Professional should disclose and explain the presence or absence of known mineralisation/petroleum or exploration results.*

7.5. Mineral Extraction

A Public Report that deals with mining and processing should include:

(i) mining methods with the relevant forecast and realised mining statistics

(ii) a description of plant, technology and operating practices, together with actual or forecast process plant recoveries from mill feed to marketable products

(iii) reasons to support any recommendation to reopen any facilities that are either on care and maintenance or have been abandoned.

(a) Practices

Existing and/or proposed mining and process plant practices should be reviewed to establish the technical and economic feasibility of the operation. Matters to be reviewed include (but are not limited to):

(i) mining and material treatment methods

(ii) grade control, mining loss and dilution

(iii) ground conditions

(iv) mineralogical and metallurgical factors likely to affect process recovery

(v) flow sheet design

(vi) variability of the mineralised body's physical and chemical properties

(vii) metallurgical recoveries

(viii) product generated (raw, concentrated, refined)

(ix) labour sources, requirements and productivity

(x) operating practices

(xi) equipment availability, utilisation and performance

(xii) the likely effects of hydrological and climatic factors on construction and operating costs

(xiii) the technologies employed or to be employed

(xiv) recent trial mining and treatment data (for proposed operations)

(xv) the anticipated time required to achieve design throughput capacity

(xvi) marketability of products.

(b) Performance estimates

Comparison of relevant prior performance and proposed performance estimates in terms of:

(i) tonnage or volumes mined and/or processed

(ii) Mineral and/or concentrate grade or coal and industrial mineral quality measured against tonnage and grade of depleted reserves

(iii) concentrate production and quality

(iv) production cost.

(c) Other factors

The Specialist or Professional should report any environmental, land access, planning controls, restrictive zoning, heritage, indigenous, social or other land rights and rehabilitation matters that may have an impact on a Public Report. It is important to identify factors that could lead to delays in project development, curtailment of operations, higher cost of debt/equity or significant compensation payments.

A Public Report should disclose any Material existing or potential, statutory, legal, technical, environmental, commercial or socio-political obstacles to future exploration, development or production. Security and sovereign risk issues should also be addressed.

The Specialist or Professional should review and describe any special factors relating to employee relations and/or work practices that may have an impact on the Mineral/Petroleum Assets under consideration.

7.6. Capital and Operating Costs

(a) Estimates

A Public Report should outline the forecast capital and operating cost estimates that have been adopted, together with supporting data and date reference.

The Specialist or Professional should review and describe the actual and forecast capital and operating costs for the estimated productive life of the Mineral/Petroleum Assets subject to the Public Report and **must** apply the Reasonableness Test to these costs and make any adjustments if necessary.

(b) Adequacy

The Specialist or Professional should report the adequacy of (and obstacles to) accessing appropriate services and infrastructure, and at what cost.

Cost estimates should take into account any likely changes with time in factors such as work practices and productivity, and be sufficiently detailed to assess whether they are realistic and achievable.

Estimates of capital costs are likely to include, but are not limited to:

(i) feasibility and associated studies

(ii) acquisition

(iii) construction

(iv) working capital

(v) owners' cost

(vi) sustaining capital

(vii) eventual shutdown and site restoration

(viii) contingency allowance

(ix) stated level of accuracy of cost estimates.

Estimates of operating costs are likely to include, but are not limited to:

(i) workforce employment

(ii) consumables

(iii) power, water and other services

(iv) on- and off-site administration

(v) environmental protection and monitoring

(vi) transport of workforce

(vii) product marketing and transport

(viii) taxes, royalties and other governmental charges

(ix) contingency allowance

(x) stated level of accuracy of cost estimates.

Services and infrastructure to be considered include power, water supply, transport, communications, workforce accommodation, housing, medical services and waste and tailings treatment and/or disposal facilities. The Public Report should also review any access and terrain conditions that may affect the logistics of exploration and development. In the case of Petroleum Assets, distances to existing or proposed oil or gas pipelines or road haulage routes should also be reported.

(c) Comparison

Capital and operating cost estimates should be compared to relevant, similar operations elsewhere.

Both capital and operating costs should be set out under broad functional headings and in terms of a suitable unit such as 'per ounce of gold produced' or 'per tonne of annual plant throughput', not just as total capital and total annual operating costs.

7.7. Revenue

(a) Assumptions

A Public Report should assess the Mineral/Petroleum Asset's revenue stream over an appropriate period and set out a reasonable basis for price-related assumptions relating to its product(s).

These may include (but are not limited to):

(i) forecast product prices, smelter treatment and refinery charges, current and forecast market conditions and the likely quantity and quality of product

(ii) penalty/premium components of the product

(iii) variation in product price and basis of forecast product prices used

(iv) size, nature and location of markets

(v) commodity market imbalances

(vi) sales volumes

(vii) cost escalation

(viii) exchange rates

(ix) hedging or forward sales contracts

(x) residual value.

Where by-product credits are a material contributor to revenue, costs of production should be documented with and without by-product credits.

The Specialist and Professional **must** apply the Reasonableness Test to these assumptions and make any adjustments if necessary.

(g) Reconciliation

A reconciliation of the proposed production volume and product quality with likely market opportunities and available Resources and/or Reserves should be incorporated into the Public Report.

8. Valuation

8.1. Basis of Value

A Public Report must disclose the basis of value. The basis of value is a statement of the fundamental measurement assumptions of a valuation. The Code primarily uses the terms Market Value and Technical Value, although circumstance may require the use of alternative definitions.

Technical Value is an assessment of a Mineral or Petroleum Asset's future net economic benefit at the Valuation Date under a set of assumptions deemed most appropriate by an Expert or Specialist, excluding any premium or discount to account for such factors as market or strategic considerations.

The term Technical Value has a similar meaning to the IVSC term Investment Value.

Market Value is the estimated amount of money (or the cash equivalent of some other consideration) for which the Mineral or Petroleum Asset should exchange on the date of Valuation between a willing buyer and a willing seller in an arm's length transaction after appropriate marketing wherein the parties each acted knowledgeably, prudently and without compulsion.

The term Market Value has the same intended meaning and context as the IVSC term of the same name.

In the 2005 edition of the VALMIN Code, the term Market Value was known as Fair Market Value.

Market Values may be higher or lower than their Technical Values. A Public Report should take such factors into account, stating the results of the principal Valuation Method(s) used and disclosing the amount of and reasons for the difference between the Market and any Technical Value.

A Valuation Report **must** state the nature of the Value(s) determined and their Valuation Date(s).

As the Values of Mineral/Petroleum Assets are likely to fluctuate over time, the Specialist or Professional should ensure that the opinions expressed and the Valuation provided is consistent with circumstances as of the Valuation Date.

8.2. Common Valuation Approaches

The selection of the Valuation Approach and underlying methodologies used is the sole responsibility of the Specialist or Professional and **must** not be influenced by the Commissioning Entity or other parties.

Three generally accepted approaches to Valuation are:

(a) **Market-based**, which is based primarily on the principle of substitution. The Mineral/Petroleum Asset being valued is compared with the transaction value of similar Mineral/Petroleum Assets under similar time and circumstances on an open market. Methods include comparable sales transactions and joint venture terms.

(b) **Income-based**, 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 a Mineral/Petroleum Asset.

(c) **Cost-based**, which is based on the principle of contribution to value. This method analyses sunk costs in terms of their contribution to the Mineral/Petroleum Asset.

8.3. Appropriate Valuation Approach

While each valuation is time- and circumstance-specific, a general guide to the applicability of each approach is outlined in Table 1.

Table 1

Valuation Approach	Exploration Projects	Pre-development Projects	Development Projects	Production Projects
Income	No	In some cases	Yes	Yes
Market	Yes	Yes	Yes	Yes
Cost	Yes	In some cases	No	No

Refer to the AusIMM web site (www.ausimm.com.au) for many papers on valuation in the minerals sector, specifically the OneMine Global Library.

The Specialist and Professional **must** make use of Valuation Approaches and Valuation Methods that are suitable for the assets under consideration. Selection of an appropriate Valuation Approach and Valuation Method will depend on such factors as the:

(a) nature of the Valuation

(b) development status of the Mineral/Petroleum Assets

(c) extent and reliability of available information.

The Specialist or Professional should disclose and discuss in the Public Report the Valuation Approach and Valuation Method(s) used, having regard to each of these factors so that another Specialist can understand the procedure and arrive at a similar Valuation within reasonable bounds. It may also be desirable to discuss why a particular Valuation Approach or Valuation Method has not been used.

A Valuation Report should make use of at least two Valuation Approaches. Where more than one Valuation Method is used, the Specialist or Professional should comment on how the results compare and on the reason(s) for selecting the Value adopted. If it is impractical to use two Valuation Approaches, the Specialist or Professional **must** clearly and unambiguously outline the reasons for not doing so.

8.4. In Situ Values

As per the JORC Code, in situ values **must not** be reported in a Public Report. In situ value concerns the application of commodity prices to Resources estimates.

> *For example, applying a $1,500 ounce gold price to a 100,000 ounce gold deposit and reporting an in-situ value of $150,000,000 is not permissible as it lacks appropriate Modifying Factors.*

8.5. Use of Reserves and Resources

All Reserves and Resources on a Tenure should be considered in a Technical Assessment or Valuation. Depending on circumstances, the Income Approach, the Market Approach or Cost Approach may be more appropriate for the Valuation of a Mineral/Petroleum Asset containing Reserves or Resources. Resources, Reserves and the Modifying Factors **must** be estimated, confirmed or verified, as the case may be, by a Specialist and **must** be current with respect to the Valuation Date.

When the Reasonable Grounds Requirement, (as of the date of the Valuation), has been met for a Valuation, the underlying Reserves and Resources used for the Valuation can be assumed to be economically viable.

For the Income Approach, it is generally acceptable, subject to satisfying the Reasonableness Test set out in clause 4.1, to use all Proved and Probable Reserves and to use Measured and Indicated and Inferred Resources contingent upon the following:

(a) If Reserves are present, they should where practicable, be mined ahead of Measured, Indicated and Inferred Resources respectively. Where Inferred Resources are included the economic viability of the project should not be reliant on them.

(b) If Reserves are not present, provided that the Resources are likely to be economically viable in the opinion of the Specialist, Measured Resources should be assumed to be extracted ahead of Indicated and Inferred Resources.

(c) Where Measured, Indicated and Inferred Resources are used in the Income Approach model, the technical and related parameters including the Modifying Factors **must** be estimated or confirmed by the Specialist(s), and a qualifying statement **must** be included in the Valuation Report about the confidence level of the technical and related parameters relative to a Feasibility Study or Pre-Feasibility Study confidence level.

(d) Where Measured, Indicated and Inferred Resources are used in the Income Approach model and/or where technical and related parameters are at a lower confidence level than a Pre-Feasibility Study level, the higher risk or uncertainty **must** be recognised by some means. This may include using a higher discount rate, reducing/discounting the quantum of the Resources or delaying the timing of production of the Resources in the Income Approach model, or some other appropriate means (as determined by the Securities Expert or Specialist) of reflecting the higher risk of including Resources.

(e) Any use of Inferred Resources in the Income Approach **must** be justified in the Valuation Report and treated appropriately for the substantially higher risk or uncertainty inherent in Inferred Resources compared to Measured and Indicated Resources. It is not acceptable to use Exploration Targets as outlined in the JORC Code in the Income Approach model, nor is it acceptable to include Contingent or Prospective Resources as defined in SPE-PRMS in an Income Approach model.

(f) Categories of mineral or petroleum that do not conform to the JORC Code or SPE-PRMS **must** not be used in the Income Approach model.

(g) For Petroleum Assets reportable under SPE-PRMS Code, it is generally acceptable to use all Proved and Probable Reserves.

8.6. Range

A range of values (high/low) should be determined and stated in a Public Report to reflect any uncertainties in the data and the interaction of the various assumptions made; however, the range should not be so wide as to render the conclusion of the Public Report meaningless.

Similarly, a Public Report should include a sensitivity analysis showing the effects of changing the most significant assumptions.

In all cases, a preferred value should be identified. Any reasons for not doing so **must** be stated in the Public Report.

8.7. Premia and discounts

When determining any premium or discount to be applied to a Technical Value, the Specialist or Professional should state the basis for market and economic conditions and how these have been taken into account.

> *A group of Mineral/Petroleum Assets may have a strategic/location/management advantage or disadvantage, and therefore have a value different to the sum of the values of the individual Mineral/Petroleum Asset. Where the value of the aggregate is assessed to be higher or lower than the sum of the individual assets, the Specialist or Professional should state both values and explain the reason for the difference.*

9. Financial Modelling

9.1. Taxation and royalties

The basis for income tax and other taxes, royalties, cost escalation, inflation and exchange rates used **must** be stated in the Public Report.

> *For guidance regarding financial modelling refer to the "Guidelines for Technical Economic Evaluation of Minerals Industry Projects" which is included in Appendix 1 of the AusIMM Mine Manager's Handbook – Monograph 26 or (as at the date of this Code) accessible from http://www.ausimm.com.au/content/docs/guidelines_tech_economic_evaluation2012.pdf.*

9.2. Financing

The conclusions of a Public Report may be affected by the nature of the financing arrangements for a project. The Specialist or Professional should therefore review any such commitments made and the likelihood and form of financing.

> *Depending upon the terms of reference of the Public Report, the Specialist or Professionals may need to assume an appropriate standard financing structure and appropriate funding timeframe depending on the circumstance of the Public Report.*
>
> *In Australia, guidance on financing factors to be taken into account may be obtained from documents in the ASIC Regulatory Guides, which are regularly updated.*

9.3. Liabilities, commitments and exposures

Depending upon the scope of the Public Report, the Specialist or Professional should report upon liabilities, commitments and financial exposures.

Such exposures may include (but are not limited to):

(a) creditors

(b) provisions for superannuation, annual leave and long service leave entitlements

(c) under-insurance

(d) expenditure and commitments on exploration Tenures

(e) the cost of environmental rehabilitation

(f) security deposits

(g) material agreements and contracts, including development plans, sales contracts, joint venture agreements, royalty agreements, project permits and environmental and access requirements

(h) redundancy commitment.

The nature and basis of any consideration or benefit payable to a vendor, promoter or provider of seed capital, and of any conditions involved, should be assessed and quantified in a Public Report.

9.4. Projections

Financial models use forecast assumptions. Such forecasts may be considered forward-looking statements and therefore the Specialist and Professional **must** be familiar with the relevant requirements about such statements.

In the Australian context, this may include the provisions of ASIC Regulatory Guide, (as at the date of this Code) RG 170.

Current and projected future economic conditions and securities markets may influence the economic viability and Value of Mineral/Petroleum Assets. A Public Report should contain a discussion of these conditions, along with supporting evidence.

10. Risk and Uncertainty

The Public Report should include an evaluation of the Uncertainty and Risks likely to apply to the Mineral/Petroleum Assets under consideration. The Risk evaluation includes an analysis of the uncertainties inherent in the assumptions made and the effects they may have on the outcome.

Risks and uncertainty may arise with respect to the availability and quality of data and other information, including (but not limited to):

(a) geological prospectivity and the possibility that further exploration may fail to demonstrate any economic mineralisation (in the case of projects without defined Reserves)

(b) geology of mineral deposits and the dependant estimates of grade, Resources and Reserves

(c) mining method, dilution and mining losses, equipment sizing and efficiencies, use of selective mining assumptions

(d) mineral processing and the variability of metallurgical parameters and wellfield extraction such as recovery rates, process plant availability and the ability of new processes to be financed and perform as forecast

(e) construction, including unforseen physical conditions and weather and industrial disputes, which may affect both capital costs and completion date

(f) provision and adequacy of infrastructure

(g) commodity price forecasts

(h) production of marketable commodities in terms of quality, price and cost of production

(i) sovereign risk involving social, political, environmental, cultural and security factors that cannot be controlled by project operators

(j) hydrocarbon-in-place and recovery factors for Petroleum Assets.

The Specialist or Professional should report upon the likelihood of deviating from base assumptions. These may include delays in completion or commissioning of projects; major changes in operating practices; or possible difficulties with new or scaled-up technologies, especially where such factors may have a significant effect on the technical or financial viability of the Mineral/Petroleum Assets. To indicate the risk profile of the subject of a Public Report, the monetary Value of an Asset should be expressed numerically as a range, together with the most likely figure.

11. Other

11.1. Site inspection

Where inspection of a Mineral/Petroleum Asset or Tenure is likely to reveal information or data that is Material to a Public Report, the Specialist or Professional **must** inspect it.

If an inspection is not made, the Specialist or Professional **must** be satisfied that there is sufficient current information available to allow an informed appraisal to be made without an inspection, and must declare the reasons for not undertaking a site visit.

The decision whether or not to conduct such an inspection **must** be made by the Specialist or a Professional and not by the Commissioning Entity.

An inspection should be made after the latest significant activity with respect to the subject matter of the Public Report has taken place. It should include any workings or treatment facilities such as a mine or process plant and associated infrastructure.

The Specialist or Professional should state in the Report the reason(s) why a Material component of a Mineral/Petroleum Asset has not been inspected.

Inspection of Petroleum or Early-stage Exploration Projects would not normally be required, except where the Specialist considers it to be Material to the Public Report.

11.2. Draft reports

A draft copy of a Public Report should be given to the Commissioning Entity so that it can advise the Specialist and/or Professional(s) as to any Material omissions, the factual accuracy, comments on the assumptions made and confidentiality of parts of the Public Report.

11.3. Records

The Specialist and Professional(s) should keep records of all correspondence and discussions with the Commissioning Entity, a list of all documents referred to in the Public Report and, subject to confidentiality agreement provisions, copies of all Material source documents.

11.4. Indemnities

Specialists and Professional(s) should obtain an indemnity from the Commissioning Entity under which they will be compensated for any liability:

(a) resulting from their reliance on information provided by the Commissioning Entity that is Materially inaccurate or incomplete

(b) relating to any consequential extension of workload through queries, questions or public hearings arising from the Public Report.

Such an indemnity does not absolve Specialists and Professionals from critically examining the information provided.

A Public Report should disclose the nature and Material details of any such indemnity.

12. Declarations

12.1. Standard

The Specialist or Professionals **must** declare in a Public Report that it has been prepared in accordance with the VALMIN Code, or indicate those areas where it is not and explain why this is so. The name of the Specialist responsible for the Public Report **must** be included and the Specialist **must** sign off on the Public Report**.**

A Public Report concerning the Technical Assessment and Valuation of Mineral/Petroleum Assets is the responsibility of the company acting through its Board of Directors. Any such report **must** be based on and fairly reflect the information and supporting documentation prepared by a Specialist(s). A company issuing a Public Report shall disclose the name(s) of the Specialist(s), state whether the Specialist(s) is a permanent employee of the company and, if not, name the Specialist's employer. The report shall be issued with the written consent of the Specialist as to the form and context in which it appears.

Appropriate forms of compliance statements may be as follows (delete bullet points that do not apply):

(a) If the required information is in the report:

'The information in this report that relates to Technical Assessment and Valuation of Mineral/Petroleum Assets reflects information compiled and conclusions derived by (insert name of Specialist), who is a (insert Member or Fellow) of (insert The Australasian Institute of Mining and Metallurgy or the Australian Institute of Geoscientists or a Recognised Professional Organisation or, in the case of the evaluation of Petroleum Assets, the professional organisation of engineers, geologists or other geoscientists that the Specialist belongs to in accordance with the requirements in the ASX listing Rules).'

(b) If the required information is included in an attached statement:

'The information in the attached report that relates to Technical Assessment and Valuation of Mineral/Petroleum Assets reflects information compiled and conclusions derived by (insert name of Specialist), who is a (insert Member or Fellow) of (insert The Australasian Institute of Mining and Metallurgy or the Australian Institute of Geoscientists or a Recognised Overseas Professional Organisation included in a list promulgated from time to time or, in the case of the evaluation of Petroleum Assets, the professional organisation of engineers, geologists or other geoscientists that the Specialist belongs to in accordance with the requirements in the ASX listing Rules).'

(c) Whether the Specialist is a permanent employee of the company or not:

'(Insert name of Specialist) is (not) a permanent employee of the company.'

(d) Plus, for all reports:

'(Insert name of Specialist) has sufficient experience relevant to the Technical Assessment and Valuation of the Mineral/Petroleum Assets under consideration and to the activity which (he/she) is undertaking to qualify as a Specialist as defined in the 2015 edition of the 'Australasian Code for the Public Reporting of Technical Assessments and Valuations of Mineral and Petroleum Assets'. (Insert name of Specialist) consents to the inclusion in the report of the matters based on his (or her) information in the form and context in which it appears.'

Documentation detailing Technical Assessment and Valuation of Mineral/Petroleum Assets on which a Public Report on the Technical Assessment or Valuation is based **must** be prepared by – or under the direction of – and signed by a Specialist(s). The documentation **must** provide a fair representation of Technical Assessment and/or Valuation being reported.

12.2. Professional Organisation

Upon commencement the Securities Expert and Specialist should each declare to the Commissioning Entity – and Professional(s) should declare to the Specialist – the name of the revocable License under which they operate or Professional Organisation to which they belong and provide a signed declaration that they are subject to the Professional Organisation's Code of Ethics. These declarations should be retained for inspection if required for a period of seven years.

12.3. Qualifications and Organisations

A Public Report **must** state the Specialist's and Professional's names, qualifications, memberships of Recognised Professional Organisations, relevant experience and appropriate licence details. The Specialist and Professional **must** identify the nature and contribution of each author to the Public Report.

12.4. Corporation and licences

Where a Public Report is prepared within a corporation or firm, the name, the registered address and if registered in Australia, the Australian Business Number (ABN), Australian Registered Body Number (ARBN) or Australian Company Number (ACN) should be included. Where relevant, the Australian Financial Services Licence (AFSL) Number of the corporation or firm should be stated.

12.5. Sign-off

A Specialist **must** not complete or sign a Public Report unless the Commissioning Entity has confirmed in writing that:

(a) full, accurate and true disclosure of all Material information has been made to the Specialist

(b) all necessary access to the Commissioning Entity's personnel and records has been assured

(c) the Independence of the Specialist and Professional(s) is respected.

13. Definitions

AFSL stands for Australian Financial Services Licence.

AIG stands for the Australian Institute of Geoscientists.

ASIC stands for Australian Securities and Investment Commission.

ASX stands for Australian Securities Exchange.

AusIMM stands for The Australasian Institute of Mining and Metallurgy.

Code of Ethics is the Code of Ethics of the relevant Professional Organisation.

Code Principles the fundamental principles of the VALMIN Code are Competence, Materiality and Transparency.

Commissioning Entity is the organisation, company or person that commissions a Public Report.

Competence/Competent is defined in clause 3.2.

Corporations Act means the Australian Corporations Act 2001 (Cth).

Corporations Regulations means the Australian Corporations Regulations 2001 (Cth).

Expert is defined in clause 2.1.

Extractive Industries are those involved in the location, extraction and associated processing of natural resources located on, in or near the earth's crust such as petroleum extraction, mining and quarrying. An important characteristic of the extractive industries that set them aside from other industries or economic sectors is the depletion or wasting of irreplaceable natural resources. The agent of production is extraction from the earth.

Feasibility Study is a comprehensive technical and economic study of the selected development option for a mineral project that includes appropriately detailed assessments of applicable Modifying Factors together with any other relevant operational factors and detailed financial analysis that are necessary to demonstrate at the time of reporting that extraction is reasonably justified (economically mineable). The results of the study may reasonably serve as the basis for a final decision by a proponent or financial institution to proceed with, or finance, the development of the project. The confidence level of the study will be higher than that of a Pre-feasibility Study.

Financial Reporting Standards are Australian statements of generally accepted accounting practice in the relevant jurisdiction in accordance with the Australian Accounting Standards Board (AASB) and the Corporations Act 2001.

FINSIA stands for the Financial Services Institute of Australasia.

Independence or **Independent** is defined in clause 4.2.

Independent Expert Report is defined in clause 5.5.

IVSC stands for the International Valuation Standards Committee.

JORC and **JORC Code** stands for the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves 2012 edition (or any subsequent edition that replaces the JORC Code 2012 edition).

Life-of-Mine Plan is a design and costing study of an existing mining operation where all Modifying Factors have been considered in sufficient detail to demonstrate at the time of reporting that extraction is reasonably justified. These Modifying Factors may be geological, mining, metallurgical, economic, marketing, legal, environmental, social, governmental, engineering or operational in scope.

Market Value is defined in clause 8.1.

Materiality and **Material** means that all the relevant information which the reader would reasonably require, and reasonably expect to find, for the purpose of making a reasoned and balanced judgement regarding the Technical Assessment or Mineral Asset Valuation. Also see clause 3.2 for guidance on what is material.

Member is a person who has been accepted and entitled to the post-nominals associated with the AIG and The AusIMM or a Recognised Professional Organisation included in a list promulgated from time to time.

Mineable means those parts of the ore body, both economic and uneconomic, that are extracted during the normal course of mining.

Mine Design is a framework of mining components and processes taking into account mining methods, access to the ore body, personnel, material handling, ventilation, water, power and other technical requirements so that mine planning can be undertaken.

Mine Planning includes production planning, scheduling and economic studies within the Mine Design, can be undertaken, taking into account geological structures and mineralisation, associated infrastructure and constraints, and other relevant aspects.

Mineral is any naturally occurring material found in or on the Earth's crust that is useful to and/or has a value placed on it by humankind, excluding hydrocarbons, which are classified as **Petroleum.**

Mineral/Petroleum Assets means all property including (but not limited to) tangible property, intellectual property, mining/petroleum and exploration tenure and other rights held or acquired in connection with the exploration, and development of and production from those tenures. This may include the plant, equipment and infrastructure owned or acquired for the development, extraction and processing of minerals/petroleum in connection with that tenure.

Most Mineral/Petroleum Assets can be classified as either:

(a) **Early-stage Exploration Projects** – Tenure holdings where mineralisation may or may not have been identified, but where Mineral or Petroleum Resources have not been identified;

(b) **Advanced Exploration Projects** – Tenure holdings where considerable exploration has been undertaken and specific targets identified that warrant further detailed evaluation, usually by drill testing, trenching or some other form of detailed geological sampling. Mineral or Petroleum Resources estimate may or may not have been made but sufficient work will have been undertaken on at least one prospect to provide both a good understanding of the type of mineralisation present and encouragement that further work will elevate one or more of the prospects to the Mineral or Petroleum Resources category;

(c) **Pre-Development Projects** – Tenure holdings where Mineral or Petroleum Resources have been identified and their extent estimated (possibly incompletely), but where a decision to proceed with development has not been made. Properties at the early assessment stage, properties for which a decision has been made not to proceed with development, properties on care and maintenance and properties held on retention titles are included in this category if Mineral or Petroleum Resources have been identified, even if no further work is being undertaken;

(d) **Development Projects** – Tenure holdings for which a decision has been made to proceed with construction and/or production, but which are not yet commissioned or operating at design levels. Economic viability of Development Projects will be proven by at least a Pre-Feasibility Study;

(e) **Production Projects** – Tenure holdings – particularly mines, wellfields and processing plants – that have been commissioned and are in production.

Mineral or Petroleum Project means any exploration, development or production activity – including a royalty or similar interest in these activities – in respect of diamonds, natural solid inorganic material, or natural solid fossilised material including base and precious metals, coal, industrial minerals and hydrocarbons.

Mineral/Petroleum Securities means those Securities issued by a body corporate or an unincorporated body whose business includes exploration, development, or extraction and processing of Minerals or Petroleum.

Mineral Resources and **Ore Reserves** are defined in the current version of the Australasian Code for the Reporting of Exploration Results, Mineral Resources and Ore Reserves (the **JORC Code**). *Refer to www.jorc.org for further information.*

MCA stands for the Minerals Council of Australia.

Mining or Petroleum Industry means the business of exploring for, extracting, processing and marketing Minerals or Petroleum.

Modifying Factors are considerations used to convert Mineral Resources to Ore Reserves. These include but are not restricted to mining, processing, metallurgical, infrastructure, economic, marketing, legal, environmental, social and governmental factors.

PESA stands for the Petroleum Exploration Society of Australia.

Petroleum means any naturally occurring hydrocarbon in a gaseous or liquid state, including coal-based methane, tar sands and oil-shale.

Petroleum Resources and **Petroleum Reserves** are defined in the current version of the Petroleum Resources Management System (**PRMS**) published by the Society of Petroleum Engineers, the American Association of Petroleum Geologists, the World Petroleum Council and the Society of Petroleum Evaluation Engineers. *Refer to www.spe.org for further information.*

Practitioner is defined in clause 2.1.

Preliminary Feasibility Study (Pre-Feasibility Study) is a comprehensive study of a range of options for the technical and economic viability of a mineral project that has advanced to a stage where a preferred mining method, in the case of underground mining, or the pit configuration, in the case of an open pit, is established and an effective method of mineral processing is determined. It includes a financial analysis based on reasonable assumptions on the Modifying Factors and the evaluation of any other relevant factors which are sufficient for a Competent Person, acting reasonably, to determine if all or part of the Mineral Resources may be converted to an Ore Reserve at the time of reporting. A Pre-Feasibility Study is at a lower confidence level than a Feasibility Study.

PRMS see the definition of Petroleum Resources and Petroleum Reserves, above.

Professional Organisation means a self-regulating body – such as one of engineers or geoscientists or of both –that:

(a) admits members primarily on the basis of their academic qualifications and professional experience;

(b) requires compliance with professional standards of expertise and behaviour according to a Code of Ethics established by the organisation; and

(c) has enforceable disciplinary powers, including that of suspension or expulsion of a member, should its Code of Ethics be breached.

Professional is defined in clause 2.1.

Public Reports are reports prepared for the purpose of informing investors or potential investors and their advisers on Exploration Results, Mineral Resources or Ore Reserves. They include but may not be limited to Technical Assessment or Valuation of Mineral/Petroleum Assets.

Reasonable and Reasonableness are defined in clause 4.1.

Reasonable Grounds Requirement refers to sections of the Corporations Act and sections of the Australian Securities and Investments Commission Act that require statements about future matters to be based on reasonable grounds, (as of the date of making the statement), or else they will be taken to be misleading.

Reasonableness Test is defined in clause 4.1.

Recognised Professional Organisation means The Australasian Institute of Mining and Metallurgy, the Australian Institute of Geoscientists or any other professional organisation listed by the AusIMM on the JORC website as a Recognised Professional Organisation, in addition to any other professional organisation recognised (e.g. SPE-PRMS) on the VALMIN website (www.valmin.org)

Representative Specialist is defined in clause 2.1.

Resource/s is used as a stand-alone term in the VALMIN Code from time to time to mean either Mineral Resources or Petroleum Resources, as appropriate.

Reserve/s is used as a stand-alone term in the VALMIN Code from time to time to mean either Ore Reserve or Petroleum Reserves, as appropriate.

Risk means the chance of an event occurring that will have an impact on objectives. A risk may be quantifiable in terms of the likelihood of loss, less than expected returns or an undesirable outcome.

Royalty or Royalty Interest is the amount of value accruing to the benefit of the royalty owner from the royalty share of production.

Scoping Study is an order of magnitude technical and economic study of the potential viability of Mineral Resources. It includes appropriate assessments of realistically assumed Modifying Factors together with any other relevant operational factors that are necessary to demonstrate at the time of reporting that progress to a Pre-Feasibility Study can be reasonably justified.

Securities has the meaning as defined in the Corporations Act

Securities Expert is defined in clause 2.1.

Specialist is defined in clause 2.1.

Specialist Report is defined in clause 5.5.

Solid Minerals are any substance occurring naturally, in or under water or in tailings or dumps having been formed by or subjected to a geological process. Solid minerals include sand, stone, rock, gravel, clay, soil and any mineral occurring in stockpiles or in residue deposits, but exclude water, oil and gas.

Technical Assessment is defined in clause 7.

Technical Assessment Report is defined in clause 5.3.

Technical Value is defined in clause 8.1.

Tenure is any form of title, right, licence, permit or lease granted by the responsible government in accordance with its mining or petroleum legislation that confers on the holder certain rights to explore for and/or extract agreed minerals or petroleum that may be (or is known to be) contained. Tenure can include third-party ownership of the Minerals or Petroleum (for example, a royalty stream). Tenure and Title have the same connotation as Tenement.

Transparency and **Transparent** is defined in clause 3.3.

Uncertainty means unpredictable conditions, events or outcomes that are not quantifiable.

VALMIN Code means this 2015 edition of the Australasian Code for the Public Reporting of Technical Assessments and Valuations of Mineral and Petroleum Assets**.**

Valuation is the process of determining the monetary Value of a Mineral/Petroleum Asset at a set Valuation Date.

Valuation Approach is a grouping of valuation methods for which there is a common underlying rationale or basis.

Valuation Date means the reference date on which the monetary amount of a Valuation in real (dollars of the day) terms is current. This date could be different from the dates of finalisation of the Public Report or the cut-off date of available data. The Valuation Date and date of finalisation of the Public Report **must** not be more than twelve months apart.

Valuation Methods are a subset of Valuation Approaches and may represent variations on a common rationale/basis.

Valuation Reports is defined in clause 5.4.

Vendor Consideration Opinion means a Public Report involving a Valuation and expressing an opinion on the fairness of the consideration paid or benefit given to a vendor, promoter or provider of seed capital.