

Summary of changes between 2004 and 2012 Editions of the JORC Code



**Prepared by the Joint Ore Reserves Committee of The Australasian Institute of
Mining and Metallurgy, Australian Institute of Geoscientists and Minerals Council of
Australia (JORC)**

Table of contents:

Purpose of this document	1
Transition period to full implementation.....	1
Major changes in the JORC Code, 2012 Edition	1
‘If not, why not’ reporting and Table 1.....	2
Competent Person attributions	2
Technical Studies.....	2
At least a Pre-Feasibility Study required for an Ore Reserve declaration.....	2
Metal equivalents	3
<i>In situ</i> or in ground values	3
Annex 1: Explanatory notes for the JORC Code, 2012 Edition plus summary of changes from the 2004 Edition.....	4
Clause 1	4
Clause 2.....	4
Clause 3.....	4
Clause 4.....	5
Clause 5.....	5
Clause 6.....	5
Clause 7.....	6
Clause 8.....	6
Clause 9.....	6
Clause 10.....	7
Clause 11.....	7
Clause 12.....	7
Clause 13.....	7
Clause 14.....	7
Clause 15.....	8
Clause 16.....	8
Clause 17.....	8
Clause 18.....	8
Clause 19.....	9
Clause 20.....	9
Clause 21.....	9
Clause 22.....	9
Clause 23.....	10
Clause 24.....	10
Clause 25.....	10
Clause 26.....	10
Clause 27.....	11
Clause 28.....	11
Clause 29.....	11
Clause 30.....	11
Clause 31.....	12
Clause 32.....	12
Clause 33.....	12
Clause 34.....	12
Clause 35.....	13
Clause 36.....	13
Clause 37.....	13
Clause 38.....	13

Clause 39.....	14
Clause 40.....	14
Clause 41.....	14
Clause 42.....	14
Clause 43.....	14
Clause 44.....	15
Clause 45.....	15
Clause 46.....	15
Clause 47.....	15
Clause 48.....	15
Clause 49.....	16
Clause 50.....	16
Clause 51.....	16
Table 1 Checklist of Assessment and Reporting Criteria – introductory material	16
Table 1 Checklist of Assessment and Reporting Criteria – Table contents	16
Appendix 1 Generic Terms and Equivalents.....	17
Appendix 2 Competent Person’s Consent Form.....	17
Appendix 3 Compliance Statements.....	17
Appendix 4 List of Acronyms	17

© Joint Ore Reserves Committee 2013

An appropriate citation is: *JORC, 2013. Summary of changes between 2004 and 2012 Editions of the JORC Code* [online]. Available from: <<http://www.jorc.org>> (The Joint Ore Reserves Committee of The Australasian Institute of Mining and Metallurgy, Australian Institute of Geoscientists and Minerals Council of Australia).

The Joint Ore Reserves Committee authorises the use and reproduction of this publication in part or in its entirety on the condition that the source is appropriately acknowledged.

PURPOSE OF THIS DOCUMENT

This document provides a summary of the changes between the 2004 and 2012 editions of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves – commonly known as the JORC Code.

The document is intended to assist users of the JORC Code to understand the changes introduced in the JORC Code, 2012 Edition.

This document may be referenced to assist users in interpreting the Code and understanding its intent. It should not be relied upon as a guide to the JORC Code, and should not be used in any way in place of the Code itself.

In the event of any apparent contradiction between this document and the JORC Code, the Code takes precedence and should be relied upon for any work in the reporting of Exploration Results, Mineral Resources and Ore Reserves.

TRANSITION PERIOD TO FULL IMPLEMENTATION

The JORC Code 2012 Edition and the new ASX Listing Rules relating to the disclosure of reserves and resources by ASX-listed mining and oil & gas exploration and production companies will come into effect on 1 December 2013 (with the exception of the requirement for a Pre-Feasibility Study or a Feasibility Study to be completed in order to declare an Ore Reserve, which will come into effect on 1 December 2014).

During the transition period until 30 November 2013, the minimum requirement for Public Reports is compliance with the JORC Code 2004 Edition and the current ASX Listing Rules. From 1 December 2013 all Public Reports must comply with the JORC Code 2012 Edition and the new ASX Listing Rules (with the exception of the above-mentioned Pre-Feasibility Study and Feasibility Study requirements which must be complied with from 1 December 2014).

The new ASX Listing Rules are available at:
<http://www.asxgroup.com.au/compliance-downloads.htm>.

Both ASX and JORC encourage early voluntary adoption of the JORC Code 2012 Edition and the new ASX Listing Rules during the transition period, before the new requirements come into effect.

An entity that voluntarily adopts the new requirements before they come into effect should ensure that it is in a position to apply the new requirements to all Public Reports issued by it from that point. ASX will expect the entity to continue to comply with the new ASX Listing Rules for the remainder of the transition period (with the exception of the above-mentioned Pre-Feasibility Study and Feasibility Study requirements, unless they are early-adopted).

MAJOR CHANGES IN THE JORC CODE, 2012 EDITION

There are a number of significant changes between the 2004 Edition and the 2012 Edition of the JORC Code. These changes are summarised here, and the following section of this document then works through the JORC Code, 2012 Edition providing explanatory notes and a summary of the changes between the 2004 and 2012 editions on a Clause-by-Clause basis.

The major changes introduced in the JORC Code, 2012 Edition are as follows:

- The requirement to report against Table 1 on an 'if not, why not' basis – Clauses 2, 5, 19, 27, 35, and the introduction to Table 1.
- Competent Person attributions – Clause 9.
- At least a Pre-Feasibility Study required for an Ore Reserve declaration – Clause 29.
- Technical Studies definitions – Clauses 37, 38, 39 and 40.
- Metal equivalents – Clause 50.

- *In situ* or in ground values – Clause 51.
- Additional guidance on reporting requirements for Competent Persons – Table 1 body of table.

‘If not, why not’ reporting and Table 1

At the core of the changes introduced in the JORC Code, 2012 Edition is enhanced disclosure of the material information prepared by the Competent Person supporting the Public Reporting of Exploration Results, Mineral Resources and/or Ore Reserves. This change requires that when an Exploration Result, Mineral Resource or Ore Reserve is being Publicly Reported either for the first time, or when there has been a material change since the last report, then the Public Report should include detailed reporting of the relevant criteria from Table 1 of the Code. Such reporting is required to be on an ‘if not, why not’ basis – which means that if the Competent Person has no comment to make about a relevant individual Table 1 criterion, then the report should explain why that criterion is not relevant to the understanding of the Public Report of the Exploration Result, Mineral Resource or Ore Reserve estimate.

The introductory section of Table 1 is also significantly expanded (compared to the 2004 Edition) to reinforce the revised Code’s requirements for how and when Table 1 and ‘if not, why not’ reporting are required.

The changes within the JORC Code, 2012 Edition that are relevant to understanding this requirement for improved reporting of material information are: Clauses 2, 5, 19, 27 and 35 and Table 1.

Competent Person attributions

Clause 9 of the JORC Code, 2012 Edition has significantly expanded upon the equivalent Clause 8 of the 2004 Edition. The expanded Clause includes requirements to identify and disclose potential conflicts of interest by the Competent Person or a related party, and changed arrangements regarding the written consent of a Competent Person for the information that Person has prepared to be used in a Public Report.

These changed arrangements include a new provision that any subsequent Public Report that refers to previously reported Exploration Results or estimates of Mineral Resources or Ore Reserves cross-references the relevant Public Report which contains the Competent Person’s consent and subsequent Competent Person’s consents to publish are not required. However the company must confirm in the subsequent Public Report that it is not aware of any new information or data that materially affects the information included in the relevant Public Report and, in the case of estimates of Mineral Resources or Ore Reserves, that all material assumptions and technical parameters underpinning the estimates in the Public Report continue to apply and have not materially changed.

The 2004 Edition included guidance on the appropriate compliance statements in Clause 8. In the 2012 Edition, this guidance has been expanded and is now included as a new Appendix 3.

Technical Studies

A new section has been added to the JORC Code in the 2012 Edition to define and describe the appropriate application of various technical and economic studies. Clauses 37 to 40 describe what technical and economic studies are and their application under the JORC Code. Definitions are included for a Scoping Study, Pre-Feasibility Study and Feasibility Study.

At least a Pre-Feasibility Study required for an Ore Reserve declaration

An important new requirement has been added to the JORC Code, 2012 Edition. Clause 29 of the revised Code requires that at least a Pre-Feasibility level Study has been conducted as part of estimating an Ore Reserve for inclusion in a Public Report. This new requirement establishes a minimum benchmark for the level of technical and economic study that is undertaken to examine the Modifying Factors as part of any Ore Reserve estimate that is included in a Public Report. The 2004 Code required that an appropriate study as determined by the Competent Person had been

undertaken. This enhancement brings the JORC Code, 2012 Edition into line with the other international reporting codes and standards.

Metal equivalents

Clause 50 of the JORC Code, 2012 Edition introduces new requirements for Public Reporting of Exploration Results, Mineral Resources or Ore Reserves in terms of 'metal equivalents'. There was no equivalent Clause in the 2004 Edition of the Code, so this new Clause is extremely important for any Competent Person or company issuing a Public Report dealing with metal equivalents estimates. The clause is based on the information previously included in ASX Companies Update 03/07 prepared jointly by ASX and JORC.

***In situ* or in ground values**

Clause 51 of the JORC Code, 2012 Edition introduces a new prohibition on the publication of *in situ* or 'in ground' financial valuations in a Public Report. *In situ* or 'in ground' financial valuations are inconsistent with the requirements of the Code as they do not take account of the Modifying Factors and are incompatible with the Code's Reporting Terminology (as set out in Figure 1, and throughout the Code). Again this new clause is based on information previously included in ASX Companies Update 03/08 also prepared jointly by ASX and JORC.

Enhanced Guidance in Table 1

As part of the suite of changes in the 2012 Edition, Table 1 of the Code now includes additional criteria and amended and/or additional explanation of many of the criteria within Table 1. This is particularly the case in the guidance related to the estimation and reporting of Mineral Resources and Ore Reserves, although there is also additional information related to sampling techniques and the reporting of Exploration Results.

ANNEX 1: EXPLANATORY NOTES FOR THE JORC CODE, 2012 EDITION PLUS SUMMARY OF CHANGES FROM THE 2004 EDITION

The headings below refer to Clause numbers and section titles of the JORC Code, 2012 Edition. Under each heading, the purpose and intent of each part of the Code is summarised, and differences between the 2012 Edition and the 2004 Edition are summarised.

Clause 1

Overview of Clause (2012 Edition):

Clause 1 of the JORC Code, 2012 Edition provides explanatory material about the history of the JORC Code, its development and the international work that has informed and influenced the JORC Code's development.

Changes between 2004 and 2012:

The 2012 Edition Clause 1 text plays the same role as in the 2004 Edition. The text has been edited and added to in order to bring it up to date with current events and to improve its clarity.

Clause 2

Overview of Clause (2012 Edition):

Clause 2 of the JORC Code, 2012 edition provides an explanation of how to interpret the text formatting throughout the Code. It states that:

- Definitions are identified by the use of bold text.
- Guidelines to support the interpretation and implementation of the Code are presented as indented italicised text.

Changes between 2004 and 2012:

The key change made in the 2012 Edition is the removal of the following text from the 2004 Edition:

'Indented italics are also used for Appendix 1 – '*Generic Terms and Equivalents*', and Table 1 – '*Check List of Assessment and Reporting Criteria*' to make it clear that they are also part of the guidelines, and that the latter is not mandatory for reporting purposes.'

The JORC Committee felt that this text in the 2004 Edition was interpreted too broadly by many Competent Persons and companies making Public Reports, and that it was used to justify not including comments on many of the elements of Table 1 that should have been reported as material aspects of a Public Report in many cases.

The removal of that text from the 2004 Edition is further supported in the 2012 Edition by the inclusion of additional guidance on the correct application of Table 1 in a number of the subsequent Clauses of the Code (see discussion below).

Clause 3

Overview of Clause (2012 Edition):

Clause 3 of the JORC Code, 2012 Edition provides an explanation of the application of the Code in Australasia. It highlights the binding nature of the Code on members of The Australasian Institute of Mining and Metallurgy and the Australian Institute of Geoscientists. It highlights the fact that the Code has been adopted by the Australian Securities Exchange (ASX) and the New Zealand Stock Exchange (NZX), and incorporated into their listing rules. It highlights the obligation to name and identify the Competent Person(s) in any Public Report.

Changes between 2004 and 2012:

The 2012 Edition Clause 3 includes editorial and clarity changes when compared to the 2004 Edition.

Some sections of text have been changed to be presented as Code text (rather than as guidance as they were in the 2004 Edition) in order to lift their profile and importance within the Code. For example, this change in presentation clarifies that it is mandatory to comply with the ASX and NZX listing rules, and to name and identify the Competent Person upon whose documentation the Public Report is based in the Public Report.

A new section of guidance in the 2012 Edition points the reader to Clause 9 in order to highlight the importance of reading Clauses 3 and 9 of the JORC Code, 2012 Edition together.

Clause 4

Overview of Clause (2012 Edition):

Clause 4 of the JORC Code, 2012 Edition presents the three governing principles of the Code: Transparency, Materiality and Competence. The Clause provides definitions for each of the principles and directs the ways in which these three principles should be applied in a Competent Person's work.

Changes between 2004 and 2012:

The three principles are presented as definitions (in bold text) in the 2012 Edition to reinforce their central place in the Code. The definitions of Transparency and Materiality have been expanded from the 2004 Edition to clarify that the omission of information is not acceptable, and that if information is omitted from a Public Report, then there should be an explanation of why that omission is justified.

Two additional paragraphs of Code text are included in Clause 4 of the 2012 Edition (below the definitions). These new paragraphs further explain the intent and application of the three principles.

Clause 5

Overview of Clause (2012 Edition):

Clause 5 of the JORC Code, 2012 Edition describes the role of Table 1 of the Code, and introduces the concept of 'if not, why not' reporting.

This new Clause sets out the expectation that Public Reports include thorough analysis and disclosure of all relevant issues in accordance with the principles of the Code (Clause 4).

The guidance material for the Clause further explains how 'if not, why not' reporting should operate in practice, and provides guidance to assist in the understanding of when reporting on an 'if not, why not' basis is required and in understanding the meaning of 'material change'.

Changes between 2004 and 2012:

Clause 5 of the JORC Code, 2012 Edition is a new Clause that has no equivalent in the 2004 Edition. This new Clause plays a key role in clarifying the Code's intent regarding what level of information a Public Report should include, and is a key part of redressing the text deleted from Clause 2 of the 2004 Edition (as discussed above).

Clause 6

Overview of Clause (2012 Edition):

Clause 6 of the JORC Code, 2012 Edition defines 'Public Reports' and provides explanation and guidance as to how the definition applies.

Changes between 2004 and 2012:

Clause 6 of the JORC Code, 2012 Edition includes a number of changes from the equivalent Clause 5 of the 2004 Edition. The definition of 'Public Reports' has been changed to align the JORC Code definition with the CRIRSCO standard definition. A new Code paragraph highlighting that a Public Report may be a report to the ASX, the NZX, to regulatory authorities or a report

required by law. A number of changes to the guidance text have been made to improve clarity of the Code. The overall intent and purpose of the Clause is unchanged in the 2012 Edition.

Clause 7

Overview of Clause (2012 Edition):

Clause 7 of the JORC Code, 2012 Edition clarifies the scope of application of the Code to all solid minerals, diamonds, gemstones, industrial minerals and coal.

Changes between 2004 and 2012:

Clause 7 of the JORC Code, 2012 Edition is unchanged from the 2004 Edition apart from the change in Clause numbering (the 2004 Edition equivalent is Clause 6).

Clause 8

Overview of Clause (2012 Edition):

Clause 8 of the JORC Code, 2012 Edition clarifies that further review the Code will be required from time to time.

Changes between 2004 and 2012:

Clause 8 of the JORC Code, 2012 Edition is unchanged from the 2004 Edition apart from the change in Clause numbering (the 2004 Edition equivalent is Clause 7).

Clause 9

Overview of Clause (2012 Edition):

Clause 9 of the JORC Code, 2012 Edition explains the responsibilities of a company issuing a Public Report, and outlines requirements for the disclosure of the relationship between the company and the Competent Person. The Clause requires that the public report identify the Competent Person responsible for preparing the information upon which the Public Report is based, as well as that Competent Person's employment arrangements and any potential conflict of interest. The Clause also sets out arrangements regarding when the written consent of the Competent Person is required (ie. before the information that Competent Person has prepared can be used in a Public Report).

Changes between 2004 and 2012:

Clause 9 of the JORC Code, 2012 Edition has significantly expanded upon the equivalent Clause 8 of the 2004 Edition. The expanded Clause includes requirements to identify and disclose potential conflicts of interest by the Competent Person or a related party, and changed arrangements regarding the written consent of a Competent Person for the information that Person has prepared to be used in a Public Report.

Clause 9 also includes changed arrangements regarding the written consent of a Competent Person for the information that Person has prepared to be used in a Public Report. These changed arrangements include a new provision (also contained in the ASX listing rule 5.23) that any subsequent Public Report that refers to previously reported Exploration Results or estimates of Mineral Resources or Ore Reserves cross-references the relevant Public Report which contains the Competent Person's consent does not require a subsequent Competent Person's consent to publish. However the company must confirm in the subsequent Public Report that it is not aware of any new information or data that materially affects the information included in the relevant Public Report and, in the case of estimates of Mineral Resources or Ore Reserves, that all material assumptions and technical parameters underpinning the estimates in the Public Report continue to apply and have not materially changed.

The 2004 Edition included examples of appropriate compliance statements in Clause 8. In the 2012 Edition, this material has been transferred to a new Appendix 3 of the Code (and hence does not appear in Clause 9 of the 2012 Edition).

Clause 10

Overview of Clause (2012 Edition):

Clause 10 of the JORC Code, 2012 Edition sets out a requirement that 'documentation' upon which a Public Report is based must be prepared by, or under the supervision of, a Competent Person, and must be signed by the Competent Person.

Changes between 2004 and 2012:

An additional sentence is included in Clause 10 of the JORC Code, 2012 Edition compared to the equivalent Clause 9 of the 2004 Edition. That addition clarifies that if an Exploration Target is included in a Public Report then the same requirement that the documentation be prepared by, or under the supervision of, a Competent Person and must be signed by the Competent Person also applies.

Clause 11

Overview of Clause (2012 Edition):

Clause 11 of the JORC Code, 2012 Edition defines 'Competent Person' and the required competences and experience a person must have to be a Competent Person.

Changes between 2004 and 2012:

Clause 11 of the JORC Code, 2012 Edition is fundamentally unchanged from the equivalent Clause 10 of the 2004 Edition. A number of changes to the wording of the Clause have been introduced to align the JORC Code definition with the CRIRSCO standard definition, and to improve the clarity of the Clause.

Clause 12

Overview of Clause (2012 Edition):

Clause 12 of the JORC Code, 2012 Edition sets out the allowable reporting terminology that can be used for Public Reports in accordance with the JORC Code. It defines 'Modifying Factors' and describes the potential for one classification to be converted to another.

Changes between 2004 and 2012:

Clause 12 of the JORC Code, 2012 Edition is fundamentally unchanged from the equivalent Clause 11 of the 2004 Edition. The definition of 'Modifying Factors' has been changed to align the JORC Code definition with the CRIRSCO standard definition. Some minor changes to wording and flow of material have been made to improve the clarity of the Clause.

Clause 13

Overview of Clause (2012 Edition):

Clause 13 of the JORC Code, 2012 Edition requires that a Public Report must contain a description of the style and nature of the mineralisation.

Changes between 2004 and 2012:

Clause 13 of the JORC Code, 2012 Edition makes the description of the style and nature of the mineralisation mandatory, whereas it was encouraged in the equivalent Clause 12 of the 2004 Edition.

Clause 14

Overview of Clause (2012 Edition):

Clause 14 of the JORC Code, 2012 Edition requires that a company must disclose all relevant information that could materially influence the economic value of reported Exploration Results, Mineral Resources or Ore Reserves. It requires prompt reporting in the case of any material changes in reported Mineral Resources and Ore Reserves.

Changes between 2004 and 2012:

Clause 14 of the JORC Code, 2012 Edition is fundamentally unchanged from the equivalent Clause 13 of the 2004 Edition. The 2012 Edition clarifies the scope of the Clause by spelling out the Reports to which it applies in more detail.

Clause 15

Overview of Clause (2012 Edition):

Clause 15 of the JORC Code, 2012 Edition requires companies to review and report annually on Mineral Resources and Ore Reserves that have previously been reported in a Public Report. The Clause sets out requirements for transparency regarding the timing and date of initial and subsequent Public Reports. It sets out requirements regarding changes to previously reported Mineral Resources and Ore Reserves.

Changes between 2004 and 2012:

Clause 15 of the JORC Code, 2012 Edition is unchanged in intent from the equivalent Clause 14 of the 2004 Edition. The 2012 Edition Clause contains additional guidance as to how the annual review and reporting should be conducted and disclosed.

Clause 16

Overview of Clause (2012 Edition):

Clause 16 of the JORC Code, 2012 Edition notes that throughout the Code the term 'quality' may be substituted for 'grade' and the term 'volume' may be substituted for 'tonnage'. The Clause notes the relevance of Appendix 1 Generic Terms and Equivalents).

Changes between 2004 and 2012:

Clause 16 of the JORC Code, 2012 Edition is unchanged from the equivalent Clause 15 of the 2004 Edition.

Clause 17

Overview of Clause (2012 Edition):

Clause 17 of the JORC Code, 2012 Edition defines 'Exploration Target' and explains how that terminology may be used within a Public Report. The Clause emphasises the importance of ensuring that a reported Exploration Target cannot be misconstrued or misrepresented as a Mineral Resource or Ore Reserve, and that all disclosures of an Exploration Target must clarify whether the target is based on actual results or a proposed exploration program.

Changes between 2004 and 2012:

Clause 17 of the JORC Code, 2012 Edition is a significant expansion and further development of Clause 18 of the 2004 Edition of the Code. The 2012 Edition Clause 17 includes a new definition of Exploration Target, taken from the CRIRSCO standard definitions. It also includes additional further explanation of how Exploration Targets should be reported in Public Reports.

Clause 18

Overview of Clause (2012 Edition):

Clause 18 of the JORC Code, 2012 Edition defines 'Exploration Results' and provides direction and guidance to support the consistent understanding of that definition.

Changes between 2004 and 2012:

Clause 18 of the JORC Code, 2012 Edition is fundamentally unchanged from the equivalent Clause 16 of the 2004 Edition. The definition of 'Modifying Factors' has been changed to align the JORC Code definition with the CRIRSCO standard definition. Some minor changes to wording and flow of material have been made to improve the clarity of the Clause.

Clause 19

Overview of Clause (2012 Edition):

Clause 19 of the JORC Code, 2012 Edition sets out requirements for the reporting of Exploration Results.

Changes between 2004 and 2012:

The purpose and intent of Clause 19 of the JORC Code, 2012 Edition is unchanged from Clause 17 of the 2004 Edition.

The 2012 Edition Clause 19 includes an additional requirement about the use of clear diagrams and maps within Public Reports. It also includes additional supporting guidance about the way assay and drill hole information should be reported, and about the obligations of the Competent Person under the 2012 Edition's 'if not, why not' reporting requirements.

Clause 20

Overview of Clause (2012 Edition):

Clause 20 of the JORC Code, 2012 Edition defines 'Mineral Resource' and provides direction and guidance to support the consistent understanding of that definition.

Changes between 2004 and 2012:

The purpose and intent of Clause 20 of the JORC Code, 2012 Edition is unchanged from Clause 19 of the 2004 Edition.

Clause 20 of the JORC Code, 2012 Edition includes an updated definition that has been changed to align the JORC Code definition with the CRIRSCO standard definition. It contains additional clarity about the expectation that all reports of Mineral Resources must satisfy the requirement that there are reasonable prospects for eventual economic extraction, as well as requirements about the way the analysis of the prospects for eventual economic extraction have been analysed.

Clause 21

Overview of Clause (2012 Edition):

Clause 21 of the JORC Code, 2012 Edition defines 'Inferred Mineral Resource' and provides direction and guidance to support the consistent understanding of that definition.

Changes between 2004 and 2012:

The purpose and intent of Clause 21 of the JORC Code, 2012 Edition is unchanged from Clause 20 of the 2004 Edition.

Clause 21 of the JORC Code, 2012 Edition includes an updated and expanded definition of 'Inferred Mineral Resource' that has been changed to align the JORC Code definition with the CRIRSCO standard definition.

It includes additional requirements about the supporting information that must be provided when a predominantly Inferred Mineral Resource is being reported. It also includes additional requirements for the circumstances in which an Inferred Mineral Resource estimate is based upon extrapolation of sampling results. These requirements were not included in the 2004 Edition of the Code.

Clause 22

Overview of Clause (2012 Edition):

Clause 22 of the JORC Code, 2012 Edition defines 'Indicated Mineral Resource' and provides direction and guidance to support the consistent understanding of that definition.

Changes between 2004 and 2012:

The purpose and intent of Clause 22 of the JORC Code, 2012 Edition is unchanged from Clause 21 of the 2004 Edition.

Clause 22 of the JORC Code, 2012 Edition includes an updated and expanded definition of 'Indicated Mineral Resource' that has been changed to align the JORC Code definition with the CRIRSCO standard definition. The 2012 Edition Clause also refers to the new technical and economic studies section if the Code Clauses 37 to 40.

Clause 23

Overview of Clause (2012 Edition):

Clause 23 of the JORC Code, 2012 Edition defines 'Measured Mineral Resource' and provides direction and guidance to support the consistent understanding of that definition.

Changes between 2004 and 2012:

The purpose and intent of Clause 23 of the JORC Code, 2012 Edition is unchanged from Clause 22 of the 2004 Edition.

Clause 23 of the JORC Code, 2012 Edition includes an updated and expanded definition of 'Measured Mineral Resource' that has been changed to align the JORC Code definition with the CRIRSCO standard definition.

The 2012 Edition Clause refers to the new technical and economic studies section if the Code Clauses 37 to 40. It also includes additional information about the circumstances that would allow conversion of a Measured Mineral Resource to a Proved Ore Reserve or a Probable Ore Reserve.

Clause 24

Overview of Clause (2012 Edition):

Clause 24 of the JORC Code, 2012 Edition outlines considerations in the judgement between different classifications of Mineral Resource that could be applied to a particular Mineral Resource estimation.

Changes between 2004 and 2012:

The purpose and intent of Clause 24 of the JORC Code, 2012 Edition is unchanged from Clause 23 of the 2004 Edition.

The 2012 Edition Clause 24 includes expanded guidance to support the effective use of technical and economic studies. It also clarifies that cut-off grades chosen for the estimation should anticipate realistic mining and processing development options, in addition to the realistic assessment of the style of mineralisation that was included in the 2004 Edition guidance.

Clause 25

Overview of Clause (2012 Edition):

Clause 25 of the JORC Code, 2012 Edition sets out requirements for describing Mineral Resource estimates.

Changes between 2004 and 2012:

Clause 25 of the JORC Code, 2012 Edition is very similar to Clause 24 of the 2004 Edition. The major change is that the requirement to always refer to an 'estimate' not a 'calculation' has been added to the Code as a mandatory requirement, rather than being guidance as it was in the 2004 Edition.

Clause 26

Overview of Clause (2012 Edition):

Clause 26 of the JORC Code, 2012 Edition requires that a Public Report must specify which of the categories of Mineral Resource is being reported, and prohibits the reporting of combined categories of 'Inferred', 'Indicated' and/or 'Measured' Mineral Resources.

Changes between 2004 and 2012:

Clause 26 of the JORC Code, 2012 Edition is almost identical to Clause 25 of the 2004 Code. The key change is an amendment to the guidelines for the Clause that clarify that the inclusion in Public Reports of estimates of minerals outside the Mineral Resource categories covered in the JORC Code is not permitted.

Clause 27

Overview of Clause (2012 Edition):

Clause 27 of the JORC Code, 2012 Edition outlines the circumstances in which 'if not, why not' reporting should be applied when a Public Report includes information about Mineral Resources. Such reporting is required when a Mineral Resource estimate is being reported for the first time or when those estimates have materially changed from when they were first reported.

Changes between 2004 and 2012:

Clause 27 of the JORC Code, 2012 Edition is a significant evolution of Clause 26 of the 2004 Edition. The new Clause 27 includes expanded instruction and guidance on the required reporting under the new 'if not, why not' reporting requirements. It provides explicit guidance about many of the elements of a Mineral Resource estimate that should be transparently disclosed in a Public Report.

Clause 28

Overview of Clause (2012 Edition):

Clause 28 of the JORC Code, 2012 Edition prohibits the use of the words 'ore' and 'reserves' when reporting Mineral Resource estimates.

Changes between 2004 and 2012:

Clause 28 of the JORC Code, 2012 Edition is identical to Clause 27 of the 2004 Edition.

Clause 29

Overview of Clause (2012 Edition):

Clause 29 of the JORC Code, 2012 Edition defines 'Ore Reserve' and provides direction and guidance to support the consistent understanding of that definition.

Changes between 2004 and 2012:

The purpose and intent of Clause 29 of the JORC Code, 2012 Edition is unchanged from Clause 28 of the 2004 Edition.

Clause 29 of the JORC Code, 2012 Edition includes an updated definition of 'Ore Reserve' that has been changed to align the JORC Code definition with the CRIRSCO standard definition of 'Mineral Reserve'. The Clause includes some minor editorial and clarity improvements.

An important new requirement is added in the 2012 Edition with the requirement that at least a Pre-Feasibility level Study has been conducted as part of estimating an Ore Reserve for inclusion in a Public Report.

Clause 30

Overview of Clause (2012 Edition):

Clause 30 of the JORC Code, 2012 Edition defines 'Probable Ore Reserve' and provides direction and guidance to support the consistent understanding of that definition.

Changes between 2004 and 2012:

The purpose and intent of Clause 30 of the JORC Code, 2012 Edition is unchanged from Clause 29 of the 2004 Edition.

Clause 30 of the JORC Code, 2012 Edition includes an updated definition of 'Probable Ore Reserve' that has been changed to align the JORC Code definition with the CRIRSCO standard definition of 'Probable Mineral Reserve'. It includes some minor changes in expression and presentation from the equivalent Clause of the 2004 Edition.

Clause 31

Overview of Clause (2012 Edition):

Clause 31 of the JORC Code, 2012 Edition defines 'Proved Ore Reserve' and provides direction and guidance to support the consistent understanding of that definition.

Changes between 2004 and 2012:

The purpose and intent of Clause 31 of the JORC Code, 2012 Edition is unchanged from Clause 30 of the 2004 Edition.

Clause 31 of the JORC Code, 2012 Edition includes an updated definition of 'Proved Ore Reserve' that has been changed to align the JORC Code definition with the CRIRSCO standard definition of 'Proved Mineral Reserve'. It includes some minor changes in expression and presentation from the equivalent Clause of the 2004 Edition.

Clause 32

Overview of Clause (2012 Edition):

Clause 32 of the JORC Code, 2012 Edition outlines considerations in the judgement between different classifications of Ore Reserve that could be applied to a particular Ore Reserve estimation.

Changes between 2004 and 2012:

Clause 32 of the JORC Code, 2012 Edition is very similar in content and presentation to Clause 31 of the 2004 Edition. The key change is in the guidance section of the Clause which emphasises that the Proved Ore Reserve category implies the highest degree of geological, technical and economic confidence in the estimate at the level of production increments used to support mine planning and production scheduling.

Clause 33

Overview of Clause (2012 Edition):

Clause 33 of the JORC Code, 2012 Edition requires that reporting of Ore Reserve estimates should portray the uncertainties that inherent in such an estimate.

Changes between 2004 and 2012:

Clause 33 of the JORC Code, 2012 Edition is fundamentally unchanged from the equivalent Clause 32 of the 2004 Edition. The 2012 Edition Clause includes some additional guidance about the way in which the accuracy and confidence level of an Ore Reserve estimate is portrayed.

Clause 34

Overview of Clause (2012 Edition):

Clause 34 of the JORC Code, 2012 Edition requires that a Public Report must specify which of the categories of Ore Reserve is being reported, and prohibits the reporting of combined categories of 'Probable' and 'Proved' Ore Reserves.

Changes between 2004 and 2012:

Clause 34 of the JORC Code, 2012 Edition is almost identical to Clause 33 of the 2004 Code, with only minor editorial changes included.

Clause 35

Overview of Clause (2012 Edition):

Clause 35 of the JORC Code, 2012 Edition outlines the circumstances in which 'if not, why not' reporting should be applied when a Public Report includes information about Ore Reserves. Such reporting is required when an Ore Reserve estimate is being reported for the first time or when those estimates have materially changed from when they were first reported.

Changes between 2004 and 2012:

Clause 35 of the JORC Code, 2012 Edition is a significant evolution of Clause 35 of the 2004 Edition. The new Clause 35 includes expanded instruction and guidance on the required reporting under the new 'if not, why not' reporting requirements.

Note that in the JORC Code, 2012 Edition the new Clauses 35 and 36 are in the opposite order to their 2004 Code equivalent of Clauses 35 and 34, respectively.

Clause 36

Overview of Clause (2012 Edition):

Clause 36 of the JORC Code, 2012 Edition sets out requirements for reporting both Mineral Resources and Ore Reserves in the same Public Report. It requires that there is clarity in the Public Report about whether Mineral Resources are inclusive of, or additional to, Ore Reserves.

Changes between 2004 and 2012:

The purpose and intent of Clause 36 of the JORC Code, 2012 Edition is unchanged from Clause 34 of the 2004 Edition.

Clause 37

Overview of Clause (2012 Edition):

Clause 37 of the JORC Code, 2012 Edition introduces a new section of Clauses dealing with technical and economic studies conducted to assist with the estimation of Mineral Resources and Ore Reserves. The Clause explains that these new Clauses and definitions have been included in the Code to support the effective implementation of new requirements that at least a Pre-Feasibility level Study has been conducted as part of estimating an Ore Reserve for inclusion in a Public Report (see Clause 29, above, for more information).

Changes between 2004 and 2012:

Clause 37 of the JORC Code, 2012 Edition is new and there is no equivalent Clause in the 2004 Edition.

Clause 38

Overview of Clause (2012 Edition):

Clause 38 of the JORC Code, 2012 Edition defines a 'Scoping Study' and provides direction on the use of Scoping Studies in estimating Mineral Resources and/or Exploration Targets. The definition is based on the CRIRSCO standard definition.

Clause 38 of the JORC Code, 2012 Edition notes that a Scoping Study is not sufficient as a basis for estimating Ore Reserves. It requires that appropriate cautionary statements about the level of confidence in the Scoping Study be included in the Public Report.

Changes between 2004 and 2012:

Clause 38 of the JORC Code, 2012 Edition is new and there is no equivalent Clause in the 2004 Edition.

Clause 39

Overview of Clause (2012 Edition):

Clause 39 of the JORC Code, 2012 Edition defines a 'Pre-Feasibility Study' and provides direction on the use of Pre-Feasibility Studies in estimating Mineral Resources and/or Ore Reserves. The definition is based on the CRIRSCO standard definition.

Changes between 2004 and 2012:

Clause 39 of the JORC Code, 2012 Edition is new and there is no equivalent Clause in the 2004 Edition.

Clause 40

Overview of Clause (2012 Edition):

Clause 40 of the JORC Code, 2012 Edition defines a 'Feasibility Study' and provides direction on the use of Feasibility Studies in estimating Mineral Resources and/or Ore Reserves. The definition is based on the CRIRSCO standard definition.

Changes between 2004 and 2012:

Clause 40 of the JORC Code, 2012 Edition is new and there is no equivalent Clause in the 2004 Edition.

Clause 41

Overview of Clause (2012 Edition):

Clause 41 of the JORC Code, 2012 Edition clarifies the application of the Code to mineralised fill, remnants, pillars, low grade mineralisation, stockpiles, dumps and tailings.

Changes between 2004 and 2012:

Clause 41 of the JORC Code, 2012 Edition is identical to Clause 36 of the 2004 Edition.

Clause 42

Overview of Clause (2012 Edition):

Clause 42 of the JORC Code, 2012 Edition clarifies that the Code applies to Coal Resources and Coal Reserves estimates, and introduces the coal-specific requirements that are contained in Clauses 42 to 44 of the JORC Code, 2012 Edition.

Changes between 2004 and 2012:

Clause 42 of the JORC Code, 2012 Edition is identical in purpose and very similar in content to Clause 37 of the 2004 Edition.

The key change in the 2012 Edition is to refer to the 'Australian Guidelines for Estimating and Reporting of Inventory Coal, Coal Resources and Coal Reserves' or its successor document. This enables an updated set of 'Australian Guidelines' for coal to be published and automatically incorporated to support the effective application of the JORC Code, 2012 Edition. This change reflects the fact that many stakeholders have identified the need for the existing 'Australian Guidelines' to be updated.

Clause 43

Overview of Clause (2012 Edition):

Clause 43 of the JORC Code, 2012 Edition clarifies the appropriate terminology of Coal Resources and Coal Reserves that may be used in coal reporting.

Changes between 2004 and 2012:

Clause 43 of the JORC Code, 2012 Edition is identical to Clause 38 of the 2004 Edition.

Clause 44

Overview of Clause (2012 Edition):

Clause 44 of the JORC Code, 2012 Edition explains how 'Marketable Coal Reserves' can be reported in conjunction with, but not instead of, reports of Coal Reserves.

Changes between 2004 and 2012:

Clause 44 of the JORC Code, 2012 Edition is equivalent in intent to Clause 39 of the 2004 Edition. The 2012 Edition Clause 44 includes additional paragraphs of guidance to support the effective reporting of Marketable Coal Reserves and the appropriate identification of 'coking coal' or 'metallurgical coal' in Public Reports.

Clause 45

Overview of Clause (2012 Edition):

Clause 45 of the JORC Code, 2012 Edition clarifies that the Code applies to Diamond Exploration Results, Mineral Resources and Ore Reserves estimates, and introduces the diamond-specific requirements that are contained in Clauses 45 to 48 of the JORC Code, 2012 Edition.

Changes between 2004 and 2012:

Clause 45 of the JORC Code, 2012 Edition is identical to Clause 40 of the 2004 Edition apart from minor change to reflect the revised Code's 'if not, why not' reporting requirements and the different application of Table 1 that results.

Clause 46

Overview of Clause (2012 Edition):

Clause 46 of the JORC Code, 2012 Edition sets out specific additional requirements for the contents of Public Reports for diamonds and gemstones.

Changes between 2004 and 2012:

Clause 46 of the JORC Code, 2012 Edition is almost identical to Clause 41 of the 2004 Edition, with only minor changes to the guidance material made to improve the clarity of the Clause.

Clause 47

Overview of Clause (2012 Edition):

Clause 47 of the JORC Code, 2012 Edition requires that a Public Report describe the details of estimates based on correlations between the frequency of occurrence of micro-diamonds and of commercial size diamonds.

Changes between 2004 and 2012:

Clause 47 of the JORC Code, 2012 Edition is identical to the equivalent Clause 42 of the 2004 Edition.

Clause 48

Overview of Clause (2012 Edition):

Clause 48 of the JORC Code, 2012 Edition sets out the requirements for the reporting of independent valuations of diamonds and gemstones.

Changes between 2004 and 2012:

Clause 48 of the JORC Code, 2012 Edition is almost identical to the equivalent Clause 43 of the 2004 Code.

Clause 48 of the JORC Code, 2012 Edition does not include an equivalent of the guidance from Clause 43 of the 2004 Code regarding the application of Table 1. As discussed earlier, the application of 'if not, why not' reporting and Table 1 has changed throughout the 2012 Edition of

the Code, and Table 1 applies in the same way to diamonds and gemstones as it does to other minerals.

Clause 49

Overview of Clause (2012 Edition):

Clause 49 of the JORC Code, 2012 Edition sets out requirements for the Public Reporting of Industrial Minerals Exploration Results, Mineral Resources and Ore Reserves.

Changes between 2004 and 2012:

Clause 49 of the JORC Code, 2012 Edition is almost identical to Clause 44 of the 2004 Edition. The 2012 Edition includes one additional requirement that for minerals that are defined by a specification, the Mineral Resource or Ore Reserve estimation must be reported in terms of the mineral or minerals on which the project is to be based and must include the specification of those minerals.

Clause 50

Overview of Clause (2012 Edition):

Clause 50 of the JORC Code, 2012 Edition sets out requirements for the Public Reporting of Metal Equivalents. It describes the minimum information required in such Reporting.

Changes between 2004 and 2012:

Clause 50 of the JORC Code, 2012 Edition is a new Clause which has no equivalent in the 2004 Edition of the Code.

Clause 51

Overview of Clause (2012 Edition):

Clause 51 of the JORC Code, 2012 Edition prohibits the inclusion of *in situ* or 'in ground' financial values in a Public Report. Such reporting would be inconsistent with the principles of the JORC Code (see Clause 4 of the 2012 Edition).

Changes between 2004 and 2012:

Clause 51 of the JORC Code, 2012 Edition is a new Clause which has no equivalent in the 2004 Edition of the Code.

Table 1 Checklist of Assessment and Reporting Criteria – introductory material

Overview of Table 1 (2012 Edition) – introductory material

The introductory material to Table 1 of the JORC Code, 2012 Edition reinforces the revised Code's requirements that Table 1 is to be used as the basis for 'if not, why not' reporting as described in Clauses 2, 5, 19, 27 and 35 of the Code.

Changes between 2004 and 2012:

The introductory material in the 2012 Edition is significantly changed and expanded when compared to the introduction to Table 1 in the 2004 Edition. This reflects the significant shift in the application of Table 1 and the required levels of disclosure in Public Reports.

Table 1 Checklist of Assessment and Reporting Criteria – Table contents

Overview of Table 1 (2012 Edition) – Table contents

Table 1 is a checklist or reference for use by those preparing Public Reports on Exploration Results, Mineral Resources and Ore Reserves. Table 1 now also sets out the range of criteria that must be reported against on an 'if not, why not' basis for initial or materially changed reports of Exploration Results, Mineral Resources or Ore Reserves for significant projects. Table 1 is divided into five sections that apply to different types of reporting. (It is important to note that more than one section of Table 1 may apply, for example sections 1, 2 and 3 are relevant to the reporting of Mineral Resources estimates.

Changes between 2004 and 2012:

There are many additions and clarifications in the 2012 Edition Table 1 when compared to the 2004 Edition. The changes are far too many to describe in detail, and any Competent Person needs to ensure that they fully understand and appreciate the requirements of the 2012 Edition Table 1 before undertaking work as a Competent Person in accordance with the revised Code. The significant changes to Table 1 are in the guidance related to the estimation and reporting of Mineral Resources and Ore Reserves (sections 3 and 4), although there is additional information related to sampling techniques in section 1, and the reporting of Exploration Results (section 2).

Appendix 1 Generic Terms and Equivalents

The JORC Code, 2012 Edition Appendix 1 sets out a range of generic terms and equivalents. The Appendix is equivalent to Appendix 1 of the 2004 Edition. The 2012 Edition includes a number of editorial changes, a number of additions of further generic terms and equivalents, including the re-ordering of the 'generic terms' by alphabetic order when compared to the 2004 Edition.

Appendix 2 Competent Person's Consent Form

The JORC Code, 2012 Edition includes a new Appendix 3 that sets out a Competent Person's Consent Form. There was no equivalent Appendix in the 2004 Edition, but a Competent Person's Consent Form for use with the 2004 Edition of the JORC Code has been published by the ASX and has been available on the ASX website.

Appendix 3 Compliance Statements

The JORC Code, 2012 Edition includes a new Appendix 3 that sets out guidance on Compliance Statements to be used in Public Reports. This new Appendix further develops the guidance previously included in Clause 8 of the 2004 Edition.

Appendix 4 List of Acronyms

The JORC Code, 2012 Edition includes a new Appendix 4 that sets out the various acronyms used throughout the Code. It is presented to assist in the ease of use of the Code.