Chapter 5

Additional reporting on mining and oil and gas production and exploration activities

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Explanatory note

This chapter sets out disclosure requirements additional to those in chapter 3 (continuous disclosure) and chapter 4 (periodic disclosure) that +mining entities and others must satisfy. A +mining entity includes a +mining producing entity and a +mining exploration entity. Additional reporting and disclosure requirements for +mining entities and +oil and gas entities, and other +entities reporting on mining and oil and gas activities.

Where indicated, other entities must comply with requirements in this chapter. Usually the disclosure is required from an entity which has, or whose +child entity has, +acquired an interest in a +mining tenement.

Information to be given to ASX for release to the market must be given to ASX's +company announcements office.

When to report

Quarterly reporting

Mining producing entities

5.1 A +mining producing entity, and any other entity that ASX asks, must complete a report (consolidated if applicable) concerning each quarter of its financial year and give it to ASX for release to the market. It must do so no later than 1 month after the end of the quarter. The report must include each of the following information.

Introduced 1/7/96. Origin: Listing Rule 3B(5) and 3B(6)(d).

5.1.1 Details of the mining production and development activities of the +mining producing entity or group and all +child entities (on a consolidated basis) relating to mining and related operations, production and development and a summary of the expenditure incurred on those activities. If there have been no activities relating to production or development activity, that fact must be stated.

Introduced 1/7/96. Origin: Listing Rule 3B(5) and 3B(6)(d).
5.1.2 A summary of the exploration activities (including geophysical surveys) of the entity or group, of the mining producing entity and all child entities (on a consolidated basis), relating to exploration, and a summary of the expenditure incurred on those activities. If there have been no exploration activities, that fact must be stated.

**Oil and gas producing entities**

5.2 An oil and gas producing entity must complete a report concerning each quarter of its financial year and give it to ASX for release to the market. It must do so no later than 1 month after the end of the quarter. The report must include all of the following information.

5.2.1 Details of the activities of the oil and gas producing entity and all child entities (on a consolidated basis) relating to oil and gas production and development and a summary of the expenditure incurred on those activities. If there have been no activities relating to oil and gas production or development, that fact must be stated.

5.2.2 Details of the activities of the oil and gas producing entity and all child entities (on a consolidated basis) relating to oil and gas exploration and a summary of the expenditure incurred on those activities. If there have been no activities relating to oil and gas exploration, that fact must be stated.

**Mining exploration entities**

5.3 A mining exploration entity, and an entity which has or whose subsidiary has acquired an interest in a mining tenement that is material to the entity, must complete a report (consolidated if applicable) concerning each quarter of its financial year and give it to ASX, for release to the market. It must do so no later than 1 month after the end of the quarter. The report must include all of the following information.

5.3.1 Details of the exploration activities of the entity or group (including geophysical surveys), and a summary of the expenditure incurred on those activities. If there has been no exploration activity, that fact must be stated.

5.3.2 Details of the mining production and development activities of the entity or group relating to mining, mining exploration and related operations, and a summary of the expenditure incurred on those activities. If there has been no production or development activity, that fact must be stated.

5.3.3 The mining exploration entity, or entity which has or whose subsidiary has acquired an interest in a mining tenement that is material to the entity, must include each of the following items in each quarterly report.

5.3.3.1 Details of the activities of the mining exploration entity and all child entities (on a consolidated basis) relating to exploration and a summary of the expenditure incurred on those activities. If there have been no activities relating to exploration, that fact must be stated.

5.3.3.2 Details of the activities of the mining exploration entity and all child entities (on a consolidated basis) relating to mining production and development and a summary of the expenditure incurred on those activities. If there have been no activities relating to production or development, that fact must be stated.

5.3.3.3 All of the following information in relation to the mining exploration entity and all child entities (on a consolidated basis).
• The mining tenements held at the end of the quarter and their location.

• The mining tenements acquired and disposed of during the quarter and their location.

• The beneficial percentage interests held in farm-in or farm-out agreements at the end of the quarter.

• The beneficial percentage interests in farm-in or farm-out agreements acquired or disposed of during the quarter.

**Oil and gas exploration entities**

5.4 An oil and gas exploration entity must complete a report concerning each quarter of its financial year and give it to ASX for release to the market. It must do so no later than 1 month after the end of the quarter. The report must include all of the following information.

5.4.1 Details of the activities of the oil and gas exploration entity and all child entities (on a consolidated basis) relating to oil and gas exploration and a summary of the expenditure incurred on those activities. If there have been no activities relating to exploration, that fact must be stated.

5.4.2 Details of the activities of the oil and gas exploration entity and all child entities (on a consolidated basis) relating to oil and gas production and development and a summary of the expenditure incurred on those activities. If there have been no activities relating to production or development, that fact must be stated.

5.4.3 All of the following information in relation to the oil and gas exploration entity and all child entities.

• The petroleum tenements held at the end of the quarter and their location.

• The location of mining petroleum tenements held acquired and disposed of during the quarter and their location.

• The location of mining tenements disposed of during beneficial percentage interests at the end of the quarter in farm-in or farm-out agreements.

• Beneficial The beneficial percentage interests in farm-in or farm-out agreements acquired or disposed of during the quarter.

*Introduced 1/7/96. Origin: Listing Rule 3B(6). Amended 11/01/10*

**Mining exploration entity and oil and gas exploration entity** to complete Appendix 5B (Quarterly report)

5.5 Mining exploration entity and oil and gas exploration entity must also complete Appendix 5B and give it to ASX. It must do so immediately the information is available, and in any event within 1 month after the end of each quarter of its financial year.

*Introduced 1/7/96. Origin: Listing Rule 3B(10).*


5.5 Introduced 1/7/96. Origin: Listing Rule 3B(9B). Deleted 1/7/98.
Reporting on mining activities

Requirements for reports applicable to all public reporting

Reports to comply with Appendix 5A

5.6 Subject to rule 5.10, a public report prepared by a mining entity, or an entity which has or whose child entity has an interest in a mining tenement, must be prepared in accordance with rules 5.7 to 5.24 if applicable and Appendix 5A (JORC Code) if applicable if the report includes a statement relating to any of the following.

- Exploration targets.
- Exploration results.
- Mineral resources or ore reserves.

Note: the rules in this chapter relate to the reporting of exploration results, mineral resources, ore reserves, historical and foreign estimates and production targets. Appendix 5A (JORC Code) relates to the reporting of exploration targets, exploration results, mineral resources and ore reserves. This rule is not confined to reports under listing rules 5.1 and 5.2. It also applies to statements in such documents as all public reports, including prospectuses, product disclosure statements, information memoranda, bidder's and target's statements and in the annual report, and in statements made in announcements given to ASX under rule 3.1. Paragraph 13 of the JORC Code says: "A company must disclose any relevant information concerning a mineral deposit that could materially influence the economic value of that deposit to the company. A company must promptly report any material changes in its Mineral Resources or Ore Reserves." Paragraph 14 of the JORC Code says "Companies must review and publicly report on their Mineral Resources and Ore Reserves at least annually." Reports, financial statements, technical papers, presentations, website content and information given to ASX for release to the market under other chapters of these rules.


Content of reports

Requirements applicable to reports of exploration results for material mining projects

5.7 An entity publicly reporting in relation to a material mining project, either:

(a) exploration results for the first time; or

(b) any new exploration results.

must include all of the following information in a market announcement and give it to ASX for release to the market.

5.7.1 As an appendix to the market announcement, a separate report providing all information that is material to understanding the exploration results, in relation to each of the criteria in section 1 (sampling techniques and data) and section 2 (reporting of exploration results) of Table 1 in Appendix 5A (JORC Code). An entity that determines that one or more of those criteria is not material for this purpose must identify each such criterion and explain why it has determined that it is not material to understanding the exploration results.

5.7.2 As an appendix to the market announcement, a separate table setting out the following information for material drill-holes unless the entity determines that the information is not material:

+ See chapter 19 for defined terms
easting and northing of the drill-hole collar;

elevation or RL of the drill-hole collar;

dip and azimuth of the hole;

down hole width and depth; and

end of hole.

An entity that determines that a drill-hole table setting out the information described above is not material, is not required to attach the table to the market announcement but must explain why it has determined that the table is not material to understanding the exploration results.

Note: clauses 17 and 18 of Appendix 5A (JORC Code) set out additional requirements for public reports on exploration results that also must be complied with (see Listing Rule 5.6). The proposed amendments to the JORC Code also require reporting against Table 1 of Appendix 5A (JORC Code) on an if not, why not basis.

Requirements applicable to reports of mineral resources for material mining projects


An entity publicly reporting estimates of inferred mineral resources, indicated mineral resources or measured mineral resources in relation to a material mining project, either:

(a) for the first time; or

(b) that have materially changed from when those estimates were last reported in accordance with this rule,

must include all of the following information in a market announcement and give it to ASX for release to the market.

5.8.1 In the market announcement, a fair and balanced representation of the information contained in the separate report prepared in accordance with rule 5.8.2 including a summary of all information material to understanding the reported estimates of mineral resources in relation to the following matters:

- geology and geological interpretation;

- sampling and sub-sampling techniques;

- drilling techniques;

- the criteria used for classification, including drill and data spacing and distribution. This includes separately identifying the drill spacing used to classify each category of mineral resources (inferred, indicated and measured) where estimates for more than one category of mineral resource are reported;

- sample analysis method;

- estimation methodology;

- cut-off grade(s), including the basis for the selected cut-off grade(s); and

- mining and metallurgical methods and parameters, and other material modifying factors considered to date.
5.8.2 As an appendix to the market announcement, a separate report providing all information that is material to understanding the estimates of mineral resources, in relation to each of the criteria in:

- section 1 (sampling techniques and data), section 2 (reporting of exploration results), and section 3 (estimation and reporting of mineral resources) of Table 1 of Appendix 5A (JORC Code); and
- section 5 (estimation and reporting of diamonds and other gemstones) of Table 1 of Appendix 5A (JORC Code), for all entities reporting diamonds and other gemstones.

An entity that determines that one or more of those criteria is not material for this purpose must identify each such criterion and explain why it has determined that it is not material to understanding the estimates of mineral resources.

Note: clauses 19 to 27 of Appendix 5A (JORC Code) set out additional requirements for public reports on mineral resources that also must be complied with (see Listing Rule 5.6). The proposed amendments to the JORC Code also require reporting against Table 1 of Appendix 5A (JORC Code) on an ‘if not, why not’ basis.

Requirements applicable to reports of ore reserves for material mining projects

5.9 During the pre-hydrocarbon reserve stage, a report, statement or assessment on hydrocarbon exploration must include the following information. An entity publicly reporting estimates of probable ore reserves and proved ore reserves in relation to a material mining project, either:

(a) for the first time; or

(b) that have materially changed from when those estimates were last reported in accordance with this rule,

must include all of the following information in a market announcement and give it to ASX for release to the market.

5.9.1 In the market announcement, a fair and balanced representation of the information contained in the separate report prepared in accordance with rule 5.9.2 including a summary of all information material to understanding the reported estimates of ore reserves in relation to the following matters:

- the material assumptions and the outcomes from the preliminary feasibility study or the feasibility study (as the case may be). If the economic assumptions are commercially sensitive to the mining entity, an explanation of the methodology used to determine the assumptions rather than the actual figure can be reported;

Note: economic assumptions may not be commercially sensitive. A mining entity that considers that certain information is commercially sensitive should refer to section 6 of Guidance Note 31 on the steps ASX expects it to take in these circumstances.

- the criteria used for classification, including the classification of the mineral resources on which the ore reserves are based and the confidence in the modifying factors applied;

- the mining method selected and other mining assumptions, including mining recovery factors and mining dilution factors;

- the processing method selected and other processing assumptions, including the recovery factors applied and the allowances made for deleterious elements;

- the basis of the cut-off grade(s) or quality parameters applied;
estimation methodology; and

material modifying factors, including the status of environmental approvals, mining tenements and approvals, other governmental factors and infrastructure requirements for selected mining methods and for transportation to market.

5.9.2 As an appendix to the market announcement, a separate report providing all information that is material to understanding the estimates of ore reserves, in relation to each of the criteria in:

- section 1 (sampling techniques and data), section 2 (reporting of exploration results), section 3 (estimation and reporting of mineral resources), and section 4 (estimation and reporting of ore reserves) of Table 1 of Appendix 5A (JORC Code); and

- section 5 (estimation and reporting of diamonds and other gemstones) of Table 1 of Appendix 5A (JORC Code), for all entities reporting diamonds and other gemstones.

An entity that determines that one or more of those criteria is not material for this purpose must identify each such criterion and explain why it has determined that it is not material to understanding the estimates of ore reserves.

Note: clauses 28 to 35 of Appendix 5A (JORC Code) set out additional requirements for public reports on ore reserves that also must be complied with (see Listing Rule 5.6). The proposed amendments to the JORC Code also require reporting against Table 1 of Appendix 5A (JORC Code) on an 'if not, why not' basis.

Requirements applicable to reports of historical estimates and foreign estimates of mineralisation for material mining projects

5.10 An entity reporting historical estimates or foreign estimates of mineralisation in relation to a material mining project to the public is not required to comply with rule 5.6 provided the entity complies with rules 5.12, 5.13 and 5.14.

5.11 An entity must not include historical estimates or foreign estimates (other than qualifying foreign estimates) of mineralisation in an economic analysis (including a scoping study, preliminary feasibility study, or a feasibility study) of the entity’s mineral resources and ore reserves holdings.

5.12 Subject to rule 5.13, an entity reporting historical estimates or foreign estimates of mineralisation in relation to a material mining project must include all of the following information in a market announcement and give it to ASX for release to the market.

5.12.1 The source and date of the historical estimates or foreign estimates.

5.12.2 Whether the historical estimates or foreign estimates use categories of mineralisation other than those defined in Appendix 5A (JORC Code) and if so, an explanation of the differences.

5.12.3 The relevance and materiality of the historical estimates or foreign estimates to the entity.

5.12.4 The reliability of the historical estimates or foreign estimates, including by reference to any of the criteria in Table 1 of Appendix 5A (JORC Code) which are relevant to understanding the reliability of the historical estimates or foreign estimates.

5.12.5 To the extent known, a summary of the work programs on which the historical estimates or foreign estimates are based and a summary of the key assumptions.
mining and processing parameters and methods used to prepare the +historical estimates or +foreign estimates.

5.12.6 Any more recent estimates or data relevant to the reported mineralisation available to the +entity.

5.12.7 The evaluation and/or exploration work that needs to be completed to verify the +historical estimates or +foreign estimates as +mineral resources or +ore reserves in accordance with Appendix 5A (JORC Code).

5.12.8 The proposed timing of any evaluation and/or exploration work that the +entity intends to undertake and a comment on how the +entity intends to fund that work.

5.12.9 A cautionary statement proximate to, and with equal prominence as, the reported +historical estimates or +foreign estimates stating that:

- the estimates are +historical estimates or +foreign estimates and are not reported in accordance with the JORC Code;
- a +competent person has not done sufficient work to classify the +historical estimates or +foreign estimates as +mineral resources or +ore reserves in accordance with the JORC Code; and
- it is uncertain that following evaluation and/or further exploration work that the +historical estimates or +foreign estimates will be able to be reported as +mineral resources or +ore reserves in accordance with the JORC Code.

5.12.10 A statement by a named +competent person or persons that the information in the market announcement provided under rules 5.12.2 to 5.12.7 is an accurate representation of the available data and studies for the +material mining project. The statement must include the information referred to in rule 5.22(b) and (c).

5.13 An +entity that has issued a market announcement under rule 5.12 is not required to include the information set out in rule 5.12 in any subsequent public report in relation to the +historical estimates or +foreign estimates provided all of the following conditions are satisfied.

5.13.1 The subsequent public report cross-references the initial market announcement referred to in rule 5.12.

5.13.2 The +entity is not in possession of any new information or data relating the +historical estimates or +foreign estimates that materially impacts on the reliability of the estimates or the +mining entity’s ability to verify the +historical estimates or +foreign estimates as +mineral resources or +ore reserves in accordance with Appendix 5A (JORC Code).

5.13.3 The +entity confirms in the subsequent public report that the supporting information provided in the initial market announcement referred to in rule 5.12 continues to apply and has not materially changed.

5.13.4 The subsequent public report includes a cautionary statement proximate to, and with equal prominence as, the reported +historical estimates or +foreign estimates stating the matters contained in rule 5.12.9.

5.14 An +entity that has publicly reported +historical estimates or +foreign estimates in accordance with rule 5.12 which have not subsequently been verified and reported as +mineral resources or +ore reserves in accordance with Appendix 5A (JORC Code), must comply with all of the following conditions.

5.14.1 The +entity must include each year in its +annual report (if applicable, in its mineral resources and ore reserves statement), a statement on:
• the progress made in evaluating the previously reported +historical estimates or +foreign estimates; and

• the status of any further evaluation and/or exploration work required to verify the +historical estimates or +foreign estimates as +mineral resources or +ore reserves in accordance with Appendix 5A (JORC Code).

5.14.2 If the +historical estimates or +foreign estimates have not been verified and reported as +mineral resources or +ore reserves in accordance with Appendix 5A (JORC Code) after 3 years from the date the +historical estimates or +foreign estimates were initially reported, the +annual report (if applicable, in its mineral resources and ore reserves statement) for that year and every subsequent year must include:

• an explanation of why the +historical estimates or +foreign estimates have not been verified and reported as +mineral resources or +ore reserves in accordance with Appendix 5A (JORC Code); and

• a statement of the +entity’s intention with regard to verifying and reporting the +historical estimates or +foreign estimates as +mineral resources or +ore reserves in accordance with Appendix 5A (JORC Code).

Note: Listing Rule 5.20 provides that a +mining entity must include a mineral resources and ore reserves statement in its +annual report.

Requirements applicable to reports of production targets

5.15 An +entity must not issue a public report containing or referring to a +production target that is based:

(a) solely on an +exploration target or solely on a combination of +inferred mineral resources and an +exploration target; or

(b) solely or partly on +historical estimates or +foreign estimates (other than +qualifying foreign estimates) of mineralisation.

5.16 Subject to rules 5.18 and 5.19, a public report by an +entity containing a +production target relating to:

(a) the +mineral resources and ore reserves holdings of the +entity (an entity level +production target); or

(b) a +material mining project of the +entity (or two or more +mining projects which together are material to the +entity),

must include all of the following information and be given to ASX for release to the market.

5.16.1 All material assumptions on which the +production target is based. If the economic assumptions are commercially sensitive to the +mining entity, an explanation of the methodology used to determine the assumptions rather than the actual figure can be reported.

Note: economic assumptions may not be commercially sensitive. A +mining entity that considers that certain information is commercially sensitive should refer to section 8.6 of Guidance Note 31 on the steps ASX expects it to take in these circumstances.

5.16.2 A statement that the estimated +ore reserves and/or +mineral resources underpinning the +production target have been prepared by a +competent person or persons in accordance with the requirements in Appendix 5A (JORC Code).

5.16.3 The relevant proportions of:

• +probable ore reserves and +proved ore reserves;
• inferred mineral resources, indicated mineral resources and measured mineral resources,

• an exploration target; and

• qualifying foreign estimates, underpinning the production target.

5.16.4 If a proportion of the production target is based on inferred mineral resources, a cautionary statement proximate to, and with equal prominence as, the reported production target, stating that:

“There is a low level of geological confidence associated with inferred mineral resources and there is no certainty that further exploration work will result in the determination of indicated mineral resources or that the production target itself will be realised”.

5.16.5 If a proportion of the production target is based on an exploration target, a statement of the factors that lead the entity to believe that it has a reasonable basis for reporting a production target in that context, and a cautionary statement proximate to, and with equal prominence as, the reported production target, stating that:

“The potential quantity and grade of an exploration target is conceptual in nature, there has been insufficient exploration to determine a mineral resource and there is no certainty that further exploration work will result in the determination of mineral resources or that the production target itself will be realised”.

5.16.6 If the production target is based solely on inferred mineral resources:

• a statement of the factors that lead the entity to believe that it has a reasonable basis for reporting a production target based solely on inferred mineral resources;

• the level of confidence with which the inferred mineral resources are estimated and the basis for that level of confidence;

• a technical report of a sufficient level of confidence to support the production target. The technical report must be prepared by, or under the supervision of, a named independent competent person or persons and include the information referred to in rule 5.22(b) and (c); and

• a cautionary statement proximate to, and with equal prominence as, the reported production target, stating that:

“There is a low level of geological confidence associated with inferred mineral resources and there is no certainty that further exploration work will result in the determination of indicated mineral resources or that the production target itself will be realised. The stated production target is based on the company’s current expectations of future results or events and should not be solely relied upon by investors when making investment decisions. Further evaluation work and appropriate studies are required to establish sufficient confidence that this target will be met.”

Note: this rule requires that the technical report must be prepared by, or under the supervision of, an independent competent person. The inferred mineral resources underlying the production target must be prepared by, or under the supervision of, a competent person or persons, but are not required to be prepared by, or under the supervision of, an independent competent person or persons.
5.16.7 If a proportion of the production target is based on qualifying foreign estimates that have not been verified and reported as mineral resources or ore reserves in accordance with Appendix 5A (JORC Code) after 3 years from the date the qualifying foreign estimates were initially reported, the statement and explanation referred to in rule 5.14.2.

Note: the proximate cautionary statement referred to in rule 5.12.9 will also be required, and should be provided together with the statement and explanation referred to above.

5.17 Subject to rules 5.18 and 5.19, a public report by an entity containing forecast financial information derived from a production target relating to:

(a) the mineral resources and ore reserves holdings of the entity (an entity level production target); or

(b) a material mining project of the entity (or two or more mining projects which together are material to the entity),

must include all of the following information and be given to ASX for release to the market.

5.17.1 All material assumptions on which the forecast financial information is based. If the economic assumptions are commercially sensitive to the mining entity, an explanation of the methodology used to determine the assumptions rather than the actual figure can be reported.

Note: economic assumptions may not be commercially sensitive. A mining entity that considers that certain information is commercially sensitive should refer to section 8.6 of Guidance Note 31 on the steps ASX expects it to take in these circumstances.

5.17.2 The production target from which the forecast financial information is derived (including all the information contained in rule 5.16).

5.17.3 If a significant proportion of the production target is based on an exploration target, the implications for the forecast financial information of not including the exploration target in the production target.

5.18 A public report by an entity containing a production target, or forecast financial information derived from a production target, relating to an operating mine(s) and that is underpinned:

(a) solely by ore reserves; or

(b) solely by a combination of ore reserves and measured mineral resources; or

(c) solely by a combination of ore reserves and:

- measured mineral resources; and/or
- the depth of the zone tested, indicated mineral resources,

provided in this case that the indicated mineral resources are not the determining factor in project viability.

is not required to comply with rules 5.16.1 or 5.17.1 (as the case may be) in relation to that production target or forecast financial information.

5.19 An entity that has issued a public report under rules 5.16 or 5.17 is not required to include the information set out in rules 5.16 and 5.17 in any subsequent public report in relation to a production target, or forecast financial information derived from a production target, provided all of the following conditions are satisfied.

5.19.1 The subsequent public report cross-references the initial public report referred to in rule 5.16 or rule 5.17 (as the case may be).
5.19.2 The entity confirms in the subsequent public report that all the material assumptions underpinning the production target, or the forecast financial information derived from a production target, in the initial public report referred to in rule 5.16 or rule 5.17 (as the case may be) continue to apply and have not materially changed.

5.19.3 If the production target is based solely on inferred mineral resources, the subsequent public report includes a cautionary statement proximate to, and with equal prominence as, the reported production target, or the forecast financial information derived from a production target, which includes the statement set out in rule 5.16.4.

5.19.4 If a proportion of the production target is based on an exploration target, the subsequent public report includes a cautionary statement proximate to, and with equal prominence as, the reported production target, or forecast financial information derived from a production target, which includes the statement set out in rule 5.16.5.

Annual report requirements

5.20 A mining exploration entity must include in its annual report:

(a) the mining tenements held by the mining exploration entity and its child entities and their location; and

(b) the percentage interest it or they hold in each mining tenement.

5.21 A mining entity must include a mineral resources and ore reserves statement in its annual report which includes all of the following information.

5.21.1 A summary of the results of the mining entity’s annual review of its ore reserves and mineral resources.

5.21.2 As at the mining entity’s end of financial year balance date (or such other appropriate disclosed date), the mining entity’s mineral resources and ore reserves holdings in tabular form reported on the following basis:

- The age and, if appropriate, the rock type and formation name of the zone tested by commodity type, including the grade or quality;

- Any liquids recovered by ore reserve category and mineral resource category; and

- The flow rate by geographical area based on the materiality of the mineral resources and ore reserves holdings to the mining entity.

Note: mineral resources and ore reserves holdings include mineral resources and ore reserves in which the mining entity or any of its child entities has an economic interest.

5.21.3 If the mining entity reports as at a date other than its end of financial year balance date, the mining entity must include a brief explanation of any material changes in the mineral resources and ore reserves holdings in the period between the date of annual review of its ore reserves and mineral resources and the end of financial year balance date.

5.21.4 A comparison of the mining entity’s mineral resources and ore reserves holdings against that from the previous year on the following basis:

- The choke size used during testing by commodity type, including the grade or quality; and

- Any other relevant basic data total ore reserves and total mineral resources by geographical area based on the materiality of the mineral resources and ore reserves holdings to the mining entity.
5.21.5 A summary of the governance arrangements and internal controls that the mining entity has put in place with respect to its estimates of mineral resources and ore reserves and the estimation process.

Note: This rule also applies to an entity which has, or whose child entity has, acquired an interest in a well. Compliance with this rule satisfies the requirement in clause 14 of Appendix 5A (JORC Code) for a mining entity to publicly report on mineral resources and ore reserves annually.

Competent person or recognised mining professional to compile information about mineral requirements


Person compiling information about hydrocarbons

5.11 A report relating to an entity’s hydrocarbon reserves must be based on information compiled by a person who has a degree (or equivalent) in geology, geophysics, petroleum engineering or a related discipline; is practising or teaching geology, geophysics or petroleum engineering; and has practised or taught one of them for at least 5 years.


Note: This rule also applies to an entity which has, or whose child entity has, acquired an interest in a well.

5.11.1 The report must either state that it is based on the information, or be accompanied by a statement to that effect signed in the same manner as the report.

Introduced 1/7/96. Origin: Listing Rule 3M(8).

Person compiling information to be identified

5.12 If the person referred to in rule 5.11 who compiles the information is a full-time employee of the entity, the report or attached statement must say so and give the name of the person. If that person is not a full-time employee of the entity, the report or statement must say so and give the name of the person and the name of the person’s firm or company.


Note: This rule applies to an entity which has, or whose child entity has, acquired an interest in a mining tenement.

5.13 The person referred to in rule 5.11 who compiles the information must consent in writing to the inclusion in the report of the matters based on the information in the form and context in which it appears. The report or attached statement must state that the person consents to the inclusion of that information in the form and context in which it appears.


Note: This rule applies to an entity which has, or whose child entity has, acquired an interest in a mining tenement.

5.22 Subject to rule 5.23, a market announcement by an entity containing exploration results or estimates of mineral resources or ore reserves in relation to a material mining project must state:

(a) that it is based on, and fairly represents, information and supporting documentation prepared by a named competent person or persons;
(b) in each case, whether the +competent person is an employee of the +mining entity or a +related party and, if not, the name of the +competent person’s employer; and

(c) in each case, the name of the professional organisation of which the +competent person is a member.

The market announcement must only be issued with the prior written consent of the +competent person or persons as to the form and context in which the +exploration results or estimates of +mineral resources or +ore reserves (as the case may be) and the supporting information are presented in the market announcement.

Note: this requirement applies to market announcements containing +exploration results under rule 5.7 or estimates (original or updated) of +mineral resources or +ore reserves under rule 5.8 or rule 5.9.

5.23 The requirements in rule 5.22 only apply the first time an +entity publicly reports +exploration results in accordance with rule 5.7 or estimates (original or updated) of +mineral resources or +ore reserves in accordance with rule 5.8 or rule 5.9 (as the case may be) provided all of the following conditions are satisfied.

5.23.1 Any subsequent public report that refers to those +exploration results or estimates of +mineral resources or +ore reserves cross-references the relevant market announcement containing the statements and consent referred to in rule 5.22.

5.23.2 The +entity confirms 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 market announcement and, in the case of estimates of +mineral resources or +ore reserves, that all material assumptions and technical parameters underpinning the estimates in the relevant market announcement continue to apply and have not materially changed.

5.24 The mineral resources and ore reserves statement in a +mining entity’s +annual report must include:

(a) a statement that it is based on, and fairly represents, information and supporting documentation prepared by a +competent person or persons; and

(b) a statement that the mineral resources and ore reserves statement as a whole has been approved by a named +competent person or persons, as well as the information referred to in rule 5.22(b) and (c) in relation to the named +competent person or persons.

The mineral resources and ore reserves statement must only be issued with the prior written consent of the named +competent person or persons referred to in paragraph (b) as to the form and context in which it appears in the +annual report.

Note: the named +competent person or persons referred to in paragraph (b) may be a different to the +competent person or persons referred to in paragraph (a).

Reporting on oil and gas activities

Requirements applicable to all public reporting

5.25 An +entity publicly reporting +petroleum resources, including estimates of:

(a) +petroleum reserves;

(b) +contingent resources; or

(c) +prospective resources,

must ensure all of the following requirements are complied with in the report.
Note: this rule is not confined to reports under this chapter. It also applies to all public reports, including prospectuses, product disclosure statements, information memoranda, bidder’s statements, target’s statements, annual reports, financial statements, technical papers, presentations, website content and information given to ASX for release to the market under other chapters of these rules.

5.25.1 The date at which the estimates are reported must be disclosed in the report.

Note: the date referred to in rule 5.25.1 may be referenced as the “evaluation date”.

5.25.2 Petroleum resources must be classified in accordance with SPE-PRMS and reported in the most specific resource class in which petroleum resources can be classified under SPE-PRMS.

Note: the specific classes for petroleum resources are mentioned in section 1.1 of SPE-PRMS. They are production, reserves, contingent resources, prospective resources and unrecoverable petroleum. Additional guidance on petroleum resource classification is provided in the Guidelines for Application of the Petroleum Resources Management System (November 2011).

5.25.3 The disclosure of total petroleum initially-in-place, total resource base, estimated ultimate recovery, remaining recoverable resources or hydrocarbon endowment is prohibited unless all of the following information is included in the report proximate to that disclosure:

- an estimate of petroleum reserves;
- an estimate of contingent resources;
- an estimate of prospective resources; and
- whether and how each of the resource classes in the summation were adjusted for risk.

Note: SPE-PRMS defines ‘total petroleum initially-in-place’ in section 1.1 and Appendix A, ‘estimated ultimate recovery’ in section 1.1 and Appendix A, and ‘recoverable resources’ in section 1.2 and Appendix A. Additional guidance on total petroleum initially-in-place is provided in section 2.2 of the Guidelines for Application of the Petroleum Resources Management System (November 2011).

5.25.4 The disclosure of discovered petroleum-initially-in-place is prohibited unless all of the following information is included in the report proximate to that disclosure.

- an estimate of petroleum reserves;
- an estimate of contingent resources; and
- whether and how each of the resource classes in the summation were adjusted for risk.

Note: SPE-PRMS defines ‘discovered petroleum initially-in-place’ in section 1.1 and Appendix A.

5.25.5 Estimates of petroleum reserves, contingent resources and prospective resources must:

- be reported according to the entity’s economic interest in the petroleum reserves, contingent resources and prospective resources including its entitlements under production-sharing contracts and risked-service contracts;

- be reported net of:

  (a) royalties that the entity is required by agreement (including overriding royalties provided for in farm-out agreements) to give in-kind to the royalty owner; or
  
  (b) those volumes that the entity is allowed to lift and sell on behalf of the royalty owner; and

+ See chapter 19 for defined terms
not be reported in relation to pure service contracts.

Note: SPE-PRMS defines 'production-sharing contract' in section 3.3.2 and Appendix A and 'risked-service contract' in section 3.3.2 and Appendix A. Additional guidance on production-sharing contracts (in section 10.33) and risked-service contracts (in section 10.4) is provided in the Guidelines for Application of the Petroleum Resources Management System (November 2011).

5.25.6 The entity must disclose whether the deterministic or probabilistic method was used to prepare the estimates of petroleum reserves, contingent resources and prospective resources in the report.

Note: SPE-PRMS defines the 'deterministic estimation method' and the 'probabilistic estimation method' in section 4.2 and Appendix A. Additional guidance on the deterministic estimation method (in sections 2.2, 3.1, 6.2 and 7.1) and the probabilistic estimation method (in sections 5.3 and 7.1) is provided in the Guidelines for Application of the Petroleum Resources Management System (November 2011).

5.25.7 If estimates of petroleum reserves, contingent resources and prospective resources are reported in units of equivalency between oil and gas, the entity must disclose in the report the conversion factor used to convert:

- gas to oil, where the estimates are reported in BOEs; and
- oil to gas, where the estimates are reported in McfGEs.

Note: additional guidance on BOEs is provided in sections 4.12 and 9.13 in the Guidelines for Application of the Petroleum Resources Management System (November 2011).

5.26 An entity publicly reporting estimates of petroleum reserves must ensure all of the following requirements are complied with in that report.

5.26.1 The entity must have a high degree of confidence in the commercial producibility of the reservoir.

5.26.2 The term 'reserves' must only be used in connection with estimates of commercially recoverable quantities of petroleum and must not be used in connection with estimated quantities of petroleum that are not commercially recoverable.

5.26.3 Petroleum reserves must be categorised and reported in the most specific category that reflects the degree of uncertainty in the estimated quantities of recoverable petroleum, that is, 1P, 2P or 3P. If an estimate of 3P is reported, estimates of 2P and 1P must also be reported.

5.26.4 If petroleum reserves are not reported net of lease fuel up to the reference point, the report must disclose the portion of the petroleum reserves estimates that will be consumed as fuel in production and lease plant operations.

Note: additional guidance on lease fuel (in section 9.1) and reference points (in sections 7.1 and 9.13) is provided in the Guidelines for Application of the Petroleum Resources Management System (November 2011).

5.26.5 The entity must disclose the reference point used for the purpose of measuring and assessing the estimated petroleum reserves.

Note: additional guidance is provided on reference points in sections 7.1 and 9.13 of the Guidelines for Application of the Petroleum Resources Management System (November 2011).

5.26.6 The disclosure of a mean estimate of petroleum reserves is prohibited.

5.26.7 Where reported petroleum reserves represent aggregated estimates of petroleum reserves, the method of aggregation must be disclosed which must be either:

- arithmetic summation by category (that is, 1P, 2P or 3P); or
5.26.8 If petroleum reserves are reported beyond the field, property or project level, estimates of petroleum reserves must be aggregated by arithmetic summation by category beyond that level of reporting. In this case, the entity must include a note in the report cautioning that the aggregate +1P may be a very conservative estimate and the aggregate +3P may be a very optimistic estimate due to the portfolio effects of arithmetic summation.

Note: additional guidance is provided on aggregation in sections 1.1, 2.1, 4.1, 5.1, 6.26 and 8.1 of the Guidelines for Application of the Petroleum Resources Management System (November 2011).

5.26.9 If a petroleum reserves replacement ratio is reported, the entity must include an explanation of how the petroleum reserves replacement ratio was calculated in the report.

5.27 An entity publicly reporting estimates of contingent resources must ensure all of the following requirements are complied with in that report.

5.27.1 Contingent resources must be categorised and reported in the most specific category that reflects the degree of uncertainty in the estimated quantities of potentially recoverable petroleum, that is, +1C, +2C or +3C. If an estimate of +3C is reported, estimates of +2C and +1C must also be reported.

5.27.2 The disclosure of a mean estimate of contingent resources is prohibited.

5.27.3 Where reported contingent resources represent aggregated estimates of contingent resources, the method of aggregation must be disclosed and must be either:

- arithmetic summation by category (that is, +1C, +2C or +3C); or
- statistical aggregation of uncertainty distributions up to the field, property or project level.

5.27.4 If contingent resources are reported beyond the field, property or project level, estimates of contingent resources must be aggregated by arithmetic summation by category beyond that level of reporting. In this case, the entity must include a note in the report cautioning that the aggregate +1C may be a very conservative estimate and the aggregate +3C may be a very optimistic estimate due to the portfolio effects of arithmetic summation.

Note: additional guidance is provided on aggregation in sections 1.1, 2.1, 4.1, 5.1, 6.26 and 8.1 of the Guidelines for Application of the Petroleum Resources Management System (November 2011).

5.28 An entity publicly reporting estimates of prospective resources must ensure all of the following requirements are complied with in that report.

5.28.1 Prospective resources must be categorised and reported in the most specific category that reflects the degree of uncertainty in the estimated quantities of potentially recoverable petroleum, that is, low estimate, best estimate or high estimate. If a high estimate of prospective resources is reported, the best estimate and low estimate of prospective resources must also be reported.

5.28.2 A cautionary statement proximate to, and with equal prominence as, the reported prospective resources must be included in the report, stating that:

“The estimated quantities of petroleum that may potentially be recovered by the application of a future development project(s) relate to undiscovered accumulations. These estimates have both an associated risk of discovery and a risk of development.”
Further exploration appraisal and evaluation is required to determine the existence of a significant quantity of potentially moveable hydrocarbons.

Progress report Requirements applicable to reporting on geophysical surveys

5.29 5.14 A public report by an entity on the progress of any geophysical survey in relation to petroleum must include the name, nature and status of the survey, and the permit under which the survey is being conducted.

Introduced 1/7/96. Origin: Listing Rule 3M(6).
Note: This rule also applies to an entity which has, or whose child entity has, acquired an interest in a well.

Hydrocarbon reports

5.15 Probable hydrocarbon reserves must only be reported in conjunction with proved hydrocarbon reserves. Possible hydrocarbon reserves must only be reported in conjunction with proved hydrocarbon reserves and probable hydrocarbon reserves.

Introduced 1/7/96. Origin: Definition of hydrocarbon reserves.
Note: This rule also applies to an entity which has, or whose child entity has acquired an interest in a well.

5.16 A report relating to the pre-hydrocarbon reserve stage must not use the word "reserves" in isolation.

Note: This rule also applies to an entity which has, or whose child entity has, acquired an interest in a well.

5.17 A report relating to the results of exploratory investigations which have reached the stage where a hydrocarbon reserve can be estimated must use the expressions for categories of hydrocarbon reserves in the listing rules.

Note: This rule also applies to an entity which has or whose child entity has acquired an interest in a well.

Requirements applicable to reporting material exploration and drilling results

5.30 An entity publicly reporting material exploration and drilling results in relation to petroleum resources must include all of the following information in that report and give the report to ASX for release to the market.

(a) The name and type of well.
(b) The location of the well and the details of the permit or lease in which the well is located.
(c) The entity’s working interest in the well.
(d) If the gross pay thickness is reported for an interval of conventional resources, the net pay thickness.
(e) The geological rock type of the formation drilled.
(f) The depth of the zones tested.
(g) The types of test(s) undertaken and the duration of the test(s).
(h) The hydrocarbon phases recovered in the test(s).
(i) Any other recovery, such as, formation water and water, associated with the test(s) and their respective proportions.
(j) The choke size used, the flow rates and, if measured, the volumes of the hydrocarbon phases measured.
(k) If applicable, the number of fracture stimulation stages and the size and nature of fracture stimulation applied.
(l) Any material volumes of non-hydrocarbon gases, such as, carbon dioxide, nitrogen, hydrogen sulphide and sulphur.

(m) Any other information that is material to understanding the reported results.

Requirements applicable to reporting petroleum reserves for material oil and gas projects

5.31 The first time an entity publicly reports estimates of petroleum reserves in relation to a material oil and gas project, the entity must include all of the following information in a market announcement and give it to ASX for release to the market.

5.31.1 All material economic assumptions used to calculate the estimates of petroleum reserves. If those economic assumptions are commercially sensitive to the oil and gas entity, an explanation of the methodology used to determine the assumptions rather than the actual figure can be reported.

5.31.2 Whether the entity has operator or non-operator interests in the material oil and gas project. If the entity has non-operator interests, the name of the operator.

5.31.3 The types of permits or licences held by the entity in respect of the reported estimates of petroleum reserves.

5.31.4 A brief description of:

- the basis for confirming commercial producibility and booking petroleum reserves;
- the analytical procedures used to estimate the petroleum reserves;
- the proposed extraction method; and
- if applicable, any specialised processing required following extraction.

5.31.5 The estimated quantities (in aggregate) to be recovered:

- from existing wells and facilities (developed petroleum reserves); and
- through future investments (undeveloped petroleum reserves).

Note: SPE-PRMS defines ‘developed reserves’ and ‘undeveloped reserves’ in section 2.1 and Appendix A. Additional guidance is provided on developed reserves and undeveloped reserves in sections 3.1, 6.1 and 8.1 of the Guidelines for Application of the Petroleum Resources Management System (November 2011).

5.31.6 If the reported estimates of petroleum reserves relate to undeveloped petroleum reserves, a brief statement regarding:

- the status of the material oil and gas project;
- when development is anticipated;
- the marketing arrangements that justify development;
- access to transportation infrastructure; and
- environmental approvals required.

5.31.7 If the reported estimates of petroleum reserves relate to unconventional petroleum resources, the land area and the number of wells for which the estimates of petroleum reserves are provided.
Note: +SPE-PRMS defines ‘unconventional resources’ in section 2.4 and Appendix A. Additional guidance on unconventional petroleum resources is provided in sections 1.1 and 8.6 of the Guidelines for Application of the Petroleum Resources Management System (November 2011).

5.31.8 If +1P is zero for the reported estimates of +petroleum reserves, a brief explanation of why +1P is zero and why, in the absence of +1P, +3P and +2P have been determined and reported.

5.32 The first time an +entity publicly reports estimates of +petroleum reserves in relation to a +material oil and gas project that have materially changed from when those estimates were previously reported, the +entity must include all of the following information in a market announcement and give it to ASX for release to the market.

5.32.1 An explanation of the new data and information.

5.32.2 An explanation of how the new data and information has affected the estimates of +petroleum reserves.

5.32.3 Any changes or additions to the information provided under rules 5.31.1 to 5.31.7.

Requirements applicable to reporting contingent resources for material oil and gas projects

5.33 The first time an +entity publicly reports estimates of +contingent resources in relation to a +material oil and gas project, the +entity must include all of the following information in a market announcement and give it to ASX for release to the market.

5.33.1 The types of permits or licences held by the +entity in respect of the reported estimates of +contingent resources.

5.33.2 The basis for confirming the existence of a significant quantity of potentially moveable hydrocarbons and the determination of a discovery.

5.33.3 A brief description of:

- the analytical procedures used to estimate the +contingent resources;
- the key contingencies that prevent the +contingent resources from being classified as +petroleum reserves; and
- any further appraisal drilling and evaluation work to be undertaken to assess the potential for commercial recovery, and to progress the +material oil and gas project.

5.33.4 If the reported estimates of +contingent resources are contingent on technology under development, a brief explanation of:

- whether the technology is under active development;
- whether a pilot for that technology is planned and budgeted; and
- whether the technology has been demonstrated to be commercially viable in analogous reservoirs and, if not, whether it has been demonstrated to be commercially viable in other reservoirs.

5.33.5 If the reported estimates of +contingent resources relate to unconventional +petroleum resources, the land area and the number of wells for which the estimates of +contingent resources are provided.

Note: +SPE-PRMS defines ‘unconventional resources’ in section 2.4 and Appendix A. Additional guidance on unconventional petroleum resources is provided in sections 1.1 and 8.6 and on the key contingencies for a classification of
contingent resources is provided in the Guidelines for Application of the Petroleum Resources Management System (November 2011).

5.34 The first time an +entity publicly reports estimates of +contingent resources in relation to a +material oil and gas project that have materially changed from when those estimates were previously reported, the +entity must include all of the following information in a market announcement and give it to ASX for release to the market.

5.34.1 An explanation of the new data and information.

5.34.2 An explanation of how the new data and information has affected the estimates of +contingent resources.

5.34.3 Any changes or additions to the information provided under rules 5.33.1 to 5.33.5.

Requirements applicable to reporting prospective resources for material oil and gas projects

5.35 The first time an +entity publicly reports estimates of +prospective resources in relation to a +material oil and gas project, the +entity must include all of the following information in a market announcement and give it to ASX for release to the market.

5.35.1 The types of permits or licences held by the +entity in respect of the reported estimates of +prospective resources.

5.35.2 A brief description of:

- the basis on which the +prospective resources are estimated; and
- any further +exploration activities, including studies, further data acquisition and evaluation work, and +exploration drilling to be undertaken and the expected timing of those +exploration activities.

5.35.3 The +entity's assessment of the chance of discovery and the chance of development associated with the reported estimates of +prospective resources.

5.35.4 If risked estimates of +prospective resources are reported, an explanation of how the estimates were adjusted for risk.

Note: additional guidance on +prospective resources is provided in the Guidelines for Application of the Petroleum Resources Management System (November 2011).

5.36 The first time an +entity publicly reports estimates of +prospective resources in relation to a +material oil and gas project that have materially changed from when those estimates were previously reported, the +entity must include all of the following information in a market announcement and give it to ASX for release to the market.

5.36.1 An explanation of the new data and information.

5.36.2 An explanation of how the new data and information has affected the estimates of +prospective resources.

5.36.3 Any changes or additions to the information provided under rules 5.35.1 to 5.35.4.

Annual report requirements

5.37 An +oil and gas exploration entity must include in its +annual report:

(a) the +petroleum tenements held by the +oil and gas exploration entity and its +child entities and their location; and
(b) the percentage interest it or they hold in each petroleum tenement.

5.38 An oil and gas entity that reports to the Securities and Exchange Commission (SEC) of the United States of America and files SEC compliant Forms 10-K and 20-F Reports with the SEC annually, is not required to comply with the annual reserves statement requirements under rules 5.39 and 5.40.

Note: the US Securities Exchange Act of 1934 requires certain companies to file Forms 10-K and 20-F with the SEC. ASX may ask an oil and gas entity to provide evidence that it has filed SEC compliant Forms 10-K and 20-F with the SEC.

5.39 Subject to rule 5.38, an oil and gas entity must include a reserves statement in its annual report which includes all of the following information.

5.39.1 As at the oil and gas entity’s end of financial year balance date, the oil and gas entity’s petroleum reserves holdings in tabular form reported on the following basis:

- subject to rule 5.39.2, by the oil and gas entity’s total +1P petroleum reserves and +2P petroleum reserves (split between developed and undeveloped petroleum reserves and by product); and

- by total aggregated +1P petroleum reserves and +2P petroleum reserves by product and geographical area (split between developed and undeveloped petroleum reserves by geographical area).

Note: petroleum reserves holdings include petroleum reserves in which the oil and gas entity or any of its child entities have an economic interest.

5.39.2 If the oil and gas entity has material unconventional petroleum resources, it must separately identify the portion of the total +1P petroleum reserves and +2P petroleum reserves reported under the first bullet point of rule 5.39.1 that are based on unconventional petroleum resources.

Note: SPE-PRMS defines ‘developed reserves’ and ‘undeveloped reserves’ in section 2.1 and Appendix A and ‘unconventional resources’ in section 2.4 and Appendix A. Additional guidance on developed and undeveloped reserves (in sections 2.1, 6.1 and 8.2) and unconventional resources (in sections 1.1 and 8.6) is provided in the Guidelines for Application of the Petroleum Resources Management System (November 2011).

5.39.3 A reconciliation of the oil and gas entity’s petroleum reserves holdings against that from the previous year. The reconciliation can be reported on the basis of the oil and gas entity’s total +1P petroleum reserves and +2P petroleum reserves by product or by total aggregated +1P petroleum reserves and +2P petroleum reserves by geographical area, and must include an explanation of any material changes in those holdings from the previous year.

5.39.4 If any material concentrations of undeveloped petroleum reserves in material oil and gas projects have remained undeveloped after 5 years from the date they were initially reported, the oil and gas entity’s reserves statement in the annual report for that year and every subsequent year must include:

- an explanation of why the undeveloped petroleum reserves have not been developed; and

- a statement of the oil and gas entity’s intention with regard to the future development of the undeveloped petroleum reserves.

Note: SPE-PRMS defines ‘undeveloped reserves’ in section 2.1 and Appendix A. Additional guidance is provided on undeveloped reserves in sections 3.1, 6.1 and 8.1 of the Guidelines for Application of the Petroleum Resources Management System (November 2011).

5.39.5 A summary of the governance arrangements and internal controls that the oil and gas entity has put in place, including the frequency and scope of any reviews or audits
undertaken, with respect to its estimates of petroleum reserves and the estimation process.

5.40 If an oil and gas entity reports on oil and gas entity level and other aggregated estimates of contingent resources in its reserves statement in its annual report, the statement must include all of the following information.

5.40.1 As at the oil and gas entity’s end of financial year balance date, the oil and gas entity’s contingent resources holdings in tabular form reported on the following basis:

- total +2C contingent resources by product; and
- aggregated +2C contingent resources by product and geographical area.

5.40.2 A reconciliation of the oil and gas entity’s total +2C contingent resources holdings against that from the previous year, including an explanation of any material changes in those holdings from the previous year.

Note: contingent resources holdings include contingent resources in which the oil and gas entity and all its child entities have an economic interest.

Qualified petroleum reserves and resources evaluator requirements

5.41 An entity publicly Reporting on estimates of petroleum reserves, contingent resources and prospective resources must ensure that those estimates are prepared by, or under the supervision of, a qualified petroleum reserves and resources evaluator or evaluators.

5.42 Subject to rule 5.43, a public report by an entity containing estimates of petroleum reserves, contingent resources and prospective resources must state:

(a) that it is based on, and fairly represents, information and supporting documentation prepared by, or under the supervision of, a named qualified petroleum reserves and resources evaluator or evaluators;

(b) whether the qualified petroleum reserves and resources evaluator is an employee of the oil and gas entity or a related party and, if not, the name of the qualified petroleum reserves and resources evaluator’s employer; and

(c) the name of the professional organisation of which the qualified petroleum reserves and resources evaluator is a member.

The report must only be issued with the prior written consent of the qualified petroleum reserves and resources evaluator as to the form and context in which the estimated petroleum reserves, contingent resources and prospective resources and the supporting information are presented in the public report.

Note: this requirement applies (but is not limited) to public reports containing estimates of petroleum reserves or materially changed estimates of petroleum reserves in accordance with rules 5.31 or 5.32, estimates of contingent resources or materially changed estimates of contingent resources in accordance with rules 5.33 or 5.34 and estimates of prospective resources or materially changed estimates of prospective resources in accordance with rules 5.35 or 5.36.

5.43 The requirements in rule 5.42 only apply the first time an entity publicly reports estimates of petroleum reserves, contingent resources or prospective resources (original or updated) provided all of the following conditions are satisfied.

5.43.1 Any subsequent public report that refers to those estimates of petroleum reserves, contingent resources or prospective resources cross-references the relevant market announcement containing the statements and consent referred to in rule 5.42.

5.43.2 The entity confirms 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
market announcement and that all the material assumptions and technical parameters underpinning the estimates in the relevant market announcement continue to apply and have not materially changed.

5.44 The reserves statement in an oil and gas entity’s annual report in accordance with rule 5.39 must include:

(a) a statement that it is based on, and fairly represents, information and supporting documentation prepared by, or under the supervision of, a qualified petroleum reserves and resources evaluator or evaluators; and

(b) a statement that the reserves statement as a whole has been approved by a named qualified petroleum reserves and resources evaluator or evaluators, as well as the information referred to in rule 5.42(b) and (c) in relation to the named qualified petroleum reserves and resources evaluator or evaluators.

The reserves statement must only be issued with the prior written consent of the named qualified petroleum reserves and resources evaluator or evaluators referred to in paragraph (b) as to the form and context in which it appears in the annual report.

Note: the named qualified petroleum reserves and resources evaluator or evaluators referred to in paragraph (b) may be different to the qualified petroleum reserves and resources evaluator or evaluators referred to in paragraph (a).

Terms of a mining tenement and a petroleum tenement joint venture

5.45 5.18 An entity must not, and must ensure that all its child entities do not, enter a joint venture agreement to investigate or explore a mining tenement or a petroleum tenement, unless the agreement provides that if the entity requires it, the operator of the joint venture will give the entity all the information the entity requires to comply with the Listing Rules; and that the information may be given to ASX for release to the market if necessary for the entity to comply with the listing rules.  

Chapter 19 Interpretation and definitions

1C denotes the low estimate scenario of contingent resources.
2C denotes the best estimate scenario of contingent resources.
3C denotes the high estimate scenario of contingent resources.

1P is equivalent to proved reserves. It denotes a low estimate scenario of petroleum reserves.
2P is equivalent to the sum of proved reserves plus probable reserves. It denotes the best estimate scenario of petroleum reserves.
3P is equivalent to the sum of proved reserves plus probable reserves plus possible reserves. It denotes the high estimate scenario of petroleum reserves.

Best estimate is the best estimate of the quantity that will actually be recovered from an accumulation by an oil and gas project. It is the most realistic assessment of recoverable quantities if only a single result were reported. When probabilistic methods are used, there should be at least a 50% probability (P50) that the quantities actually recovered will equal or exceed the best estimate.

BOEs barrels of oil equivalent.

compotent person the meaning in Appendix 5A (JORC Code).

contingent resources those quantities of petroleum estimated, as of a given date, to be potentially recoverable from known accumulations by application of development oil and gas projects, but which are not currently considered to be commercially recoverable due to one or more contingencies.

contingent resources holdings aggregate of the economic interests in contingent resources of an entity and its child entities.

exploration includes geophysical surveys.

exploration results the meaning in Appendix 5A (JORC Code).

exploration target the meaning in Appendix 5A (JORC Code).

extraction includes developing the infrastructure to extract minerals or petroleum (as the case may be).

feasibility study the meaning in Appendix 5A (JORC Code).

foreign estimate an estimate of quantity and grade of mineralisation that was prepared using a mineral resources classification and reporting standard from another jurisdiction prior to an entity acquiring, or entering into an agreement to acquire, an interest in a mining tenement that contains the deposit, and which the entity has not verified as mineral resources or ore reserves in accordance with Appendix 5A (JORC Code).

high estimate an optimistic estimate of the quantity that will actually be recovered from an accumulation by an oil and gas project.

+ See chapter 19 for defined terms
When probabilistic methods are used, there should be at least a 10% probability (P10) that the quantities actually recovered will equal or exceed the high estimate.

**Historical estimate**

An estimate of quantity and grade of mineralisation that is based on information and supporting documentation that was prepared prior to the introduction of Appendix 5A (JORC Code) and which an entity has not verified as mineral resources or ore reserves in accordance with Appendix 5A (JORC Code).

**Indicated mineral resources**

The meaning in Appendix 5A (JORC Code).

**Inferred mineral resources**

The meaning in Appendix 5A (JORC Code).

**Lease fuel**

Oil and/or gas used for field and processing plant operations.

**Low estimate**

A conservative estimate of the quantity that will actually be recovered from an accumulation by an oil and gas project. When probabilistic methods are used, there should be at least a 90% probability (P90) that the quantities actually recovered will equal or exceed the low estimate.

**Material mining project**

In relation to an entity, a mining project which meets the following criteria:

(a) the entity or a child entity has an economic interest in the mining project (whether alone or jointly with others); and

(b) that interest is, or is likely to be, material in the context of the overall business operations or financial results of the entity and its child entities (on a consolidated basis).

**Material oil and gas project**

In relation to an entity, an oil and gas project which meets the following criteria:

(a) the entity or a child entity has an economic interest in the oil and gas project (whether alone or jointly with others); and

(b) that interest is, or is likely to be, material in the context of the overall business operations or financial results of the entity and its child entities (on a consolidated basis).

**McFGEs**

Thousand cubic feet of gas equivalent.

**Measured mineral resources**

The meaning in Appendix 5A (JORC Code).

**Mineral resources and ore reserves holdings**

Aggregate economic interests in mineral resources and ore reserves of an entity and its child entities.

**Minerals**

Means all solid minerals, including diamonds, other gemstones, industrial minerals and coal but does not include petroleum.

**Mineral resources**

The meaning in Appendix 5A (JORC Code).

**Mining entity**

A mining exploration entity or a mining producing entity.
mining exploration entity an entity:

(a) whose main undertaking consists of exploration for minerals; or
(b) which has been advised by ASX that it is a mining exploration entity for the purposes of the listing rules.

mining producing entity an entity:

(a) whose main undertaking consists of the extraction of minerals; or
(b) which has been advised by ASX that it is a mining producing entity for the purposes of the listing rules.

mining project a project to explore for or extract minerals from a mining tenement or tenements.

Note: the boundaries of what constitutes a mining project will often be determined by commercial considerations, including development decisions and budget allocations. A mining project may constitute the development of a single mine, or an incremental development in a producing mine, or the integrated development of a group of several mines and associated facilities with common ownership.

mining tenement any right to explore for or extract minerals in a given place.

oil and gas entity an oil and gas exploration entity or an oil and gas producing entity.

oil and gas exploration entity an entity:

(a) whose main undertaking consists of exploration for petroleum; or
(b) which has been advised by ASX that it is an oil and gas exploration entity for the purposes of the listing rules.
oil and gas producing entity an entity:

(a) whose main undertaking consists of the extraction of petroleum; or

(b) which has been advised by ASX that it is an oil and gas producing entity for the purposes of the listing rules.

oil and gas project a project to explore for or extract petroleum from a petroleum tenement or tenements.

Note: the boundaries of what constitutes an oil and gas project will often be determined by commercial considerations, including development decisions and budget allocations. An oil and gas project may constitute the development of a single reservoir or field, or an incremental development in a producing field, or the integrated development of a group of several fields and associated facilities with common ownership. SPE-PRMS defines ‘project’.

ore reserves the meaning in Appendix 5A (JORC Code).

petroleum a naturally occurring mixture consisting of hydrocarbons in the gaseous, liquid or solid phase. Petroleum may also contain non-hydrocarbon compounds. Common examples of non-hydrocarbon compounds included in petroleum are carbon dioxide, nitrogen, hydrogen sulphide and sulphur.

petroleum reserves those quantities of petroleum anticipated to be commercially recoverable by application of development projects to known accumulations from a given date forward under defined conditions. Petroleum reserves must satisfy four criteria: they must be discovered, recoverable, commercial and remaining based on the development project(s) applied.

petroleum reserves holdings aggregate economic interests in petroleum reserves of an entity and its child entities.

petroleum resources all quantities of petroleum (recoverable and unrecoverable) naturally occurring on or within the Earth’s crust, discovered and undiscovered, plus those quantities already produced. It includes all types of petroleum whether currently considered ‘conventional’ or ‘unconventional’.

petroleum tenement any right to explore for or extract petroleum in a given place.

possible reserves those additional petroleum reserves which analysis of geoscience and engineering data indicate are less likely to be recoverable than probable reserves. The total quantities ultimately recovered from the project have a low probability to exceed the sum of proved reserves plus probable reserves plus possible reserves (+3P). When probabilistic methods are used, there should be at least a 10% probability that the actual quantities recovered will equal or exceed the +3P estimate.

preliminary feasibility study the meaning in Appendix 5A (JORC Code).

probable ore reserves the meaning in Appendix 5A (JORC Code).

probable reserves those additional petroleum reserves which analysis of geoscience and engineering data indicate are less likely to be recovered than proved reserves but more certain to be recovered than possible reserves. It is equally likely that actual
remaining quantities recovered will be greater than or less than
the sum of the estimated +proved reserves plus +probable
reserves (+2P). When probabilistic methods are used, there
should be at least a 50% probability that the actual quantities
recovered will equal or exceed the +2P estimate.

production target a projection or forecast of the amount of +minerals to be
extracted from a particular +mining tenement or tenements for a
period that extends past the current year and the forthcoming
year.

prospective resources those quantities of +petroleum which are estimated, as of a given
date, to be potentially recoverable from undiscovered
accumulations.

proved reserves those quantities of +petroleum, which by analysis of geoscience
and engineering data, can be estimated with reasonable certainty
to be commercially recoverable, from a given date forward, from
known reservoirs and under defined economic conditions,
operating methods, and government regulations. If deterministic
methods are used, the term reasonable certainty is intended to
express a high degree of confidence that the quantities will be
recovered. When probabilistic methods are used, there should
be at least a 90% probability that the quantities actually recovered
equal or exceed the estimate.

qualified petroleum reserves a person is a qualified petroleum reserves and resources
and resources evaluator evaluator if he or she:

(a) has obtained a bachelors or advanced degree in petroleum
engineering, geology, geophysics or other discipline of
engineering or physical science;

(b) has a minimum of five years practical experience in
+petroleum engineering, +petroleum production geology or
+petroleum geology, with at least three years of such
experience being in the evaluation and estimation of
+petroleum reserves, +contingent resources and
+prospective resources; and

(c) is a member of good standing of a professional
organisation of engineers, geologists or other geoscientists
whose professional practice includes +petroleum reserves,
+contingent resources and +prospective resources
evaluations and/or audits. The professional organisation
must have disciplinary powers, including the power to
suspend or expel a member.

qualifying foreign estimates a +foreign estimate that was prepared in accordance with:

- the SAMREC Code;
- NI 43-101 and the CIM Standards; or
- the PERC Code,

and that is otherwise acceptable to ASX.

Note: ASX may not consider a foreign estimate prepared in accordance with one
of the aforementioned reporting codes acceptable if, for example, the estimate
was prepared at a time when, in ASX’s view, that reporting code was not
substantially equivalent to the requirements currently applicable in Appendix 5A (JORC Code).

reference point a defined location within a petroleum extraction and processing operation where quantities of produced product are measured under defined conditions prior to custody transfer.

scoping study the meaning in Appendix 5A (JORC Code).

SPE-PRMS Petroleum Resources Management System sponsored by the Society of Petroleum Engineers (SPE), the American Association of Petroleum Geologists (AAPG), the World Petroleum Council (WPC) and the Society of Petroleum Evaluation Engineers (SPEE).
Document comparison by Workshare Professional on Friday, 2 November 2012 9:16:52 AM

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- **Moved to**
- **Style change**
- **Format change**
- **Moved deletion**

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### Deleted cell

### Moved cell

### Split/Merged cell

### Padding cell

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