

## Malam Sumber Mineral (Mineral Resources Night)

### Laporan (Report)

This Mineral Resources Night (Malam Sumber Mineral) organised by the Economic Geology Working Group was held on Thursday 16 September from 5 to 7 pm at the Geology Department, University of Malaya. We had 2 speakers from the new Department of Mineral and Geoscience Malaysia. The evening was attended by 30 participants.

### International classification of reserve and resources (Solid fuels and mineral commodities)

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### Abstrak (Abstract)

The United Nations International Framework Classification for Reserves/Resources (abbreviated: UN Framework Classification) is the latest effort to develop a universally and internationally applicable framework for assessing solid fuel and mineral deposits under market economy conditions. This new classification framework is designed to allow incorporation of existing terms into it, in order to make them comparable and compatible, thus enhancing international communication.

The UN Framework Classification provides information about (1) the stage of *Geological Assessment*; (2) the stage of *Feasibility Assessment*; and (3) the degree of *Economic Viability*.

The terms of the above stages are considered to be familiar to all users, not only to geologists and mining engineers but also to investors, bankers, shareholders, and planners engaged with solid fuels and mineral commodities. The terms and definitions currently used in the existing national classification systems can easily be related to and assigned to the corresponding stages of assessment of the UN Framework Classification, allowing the national terms to be maintained and making them comparable at the same time.

Geological Assessment is subdivided into four consecutive stages which are, in order of increasing detail: *Reconnaissance*, *Prospecting*, *General Exploration* and *Detailed Exploration*.

Feasibility Assessment is subdivided into three consecutive stages which are, in order of increasing detail: *Geological Study*, *Prefeasibility Study*, and *Feasibility Study/Mining Report*.

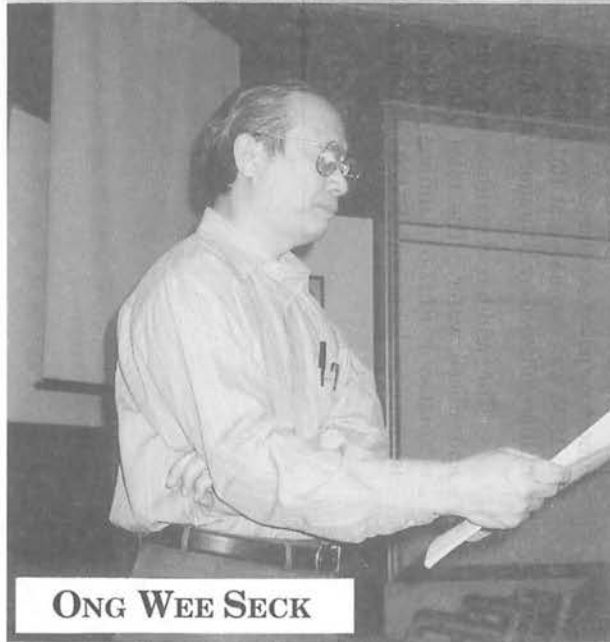
The Economic Viability, corresponding to the reserve/resource figures as obtained from the Feasibility Assessment, is reported as the third dimension. There are two categories of Economic Viability: *economic* and *potentially economic*, which are only quoted in the stages of Mining Report/Feasibility Study and Prefeasibility Study. In a Geological Study, the Economic Viability is not assessed but roughly estimated by adopting cut-off values and/or by comparison with mining activities carried out in similar deposits. Thus, in this case the resource figures are generally quoted as being in the range of "*economic to potentially economic*" and therefore of intrinsic economic interest.

The *Total Mineral Resource* is defined as naturally occurring concentrations of mineral raw material of economic interest and with specified geological certainty. A *Mineral Reserve* is the economically mineable part of Total Mineral Resource as demonstrated by Feasibility Assessment. The *Remaining Mineral Resource* is the balance of the Total Mineral Resource that has not been identified as a Mineral Reserve. According to the different stages of

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assessment, Mineral Reserve and Remaining Mineral Resource are subdivided into a total of eight different classes namely, Proved Mineral Reserve, Probable Mineral Reserve, Feasibility Mineral Resource, Prefeasibility Mineral Resource, Measured Mineral Resource, Indicated Mineral Resource, Inferred Mineral Resource and Reconnaissance Mineral Resource.

The incorporation of existing classification systems into the UN Framework Classification and their comparison will be further simplified by means of codification acting as interface.

The principle behind the proposed codification of the UN Framework Classification, the three dimensions of categorization represented by the edges of a cube, the E (Economic) axis for Economic Viability, the F (Feasibility) axis for Feasibility Assessment, and the G (Geology) axis for Geological Study.

Numbers are used to designate the different classes; the lowest number, in accordance with the usual perception that the 1st is the best, referring to the highest degree of Economic Viability on the E axis, and the highest degree of assurance on the F axis and G axis.