

中国矿业资本市场储量管理制度建设进展情况

The Progress of Reserve Management System of China Mining Capital Market

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Surface

一、 The Progresses made

二、 The Recently Reform Policies Related to Mineral Resources and Reserves Management in China

三、 Next Step

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Surface

- As a country with rich mineral resources and strong mining industry, China has seen the vigorous development of capital market in mining industry. How to get a better access to the international capital market of mining industry is a major problem confronted by China. China has tracked and followed the operation model and rules of CRIRSCO for an extended period. In 2015, the Ministry of Land and Resources, as an observer, participated in CRIRSCO's annual meeting.

After last Annual Meeting, we have carried out several relevant studies and achieved stage progress. A forum of “China Mining Capital Market Mineral Resources Reserves Classification and Information Disclosure Rules International Comparison” has been made in the China Mining Conference and Exhibition 2016. Mr. Harry Parker and Mr. Peter Stoker participated the forum.

一、Progresses Made

(一) Comparative study of classification for resources/reserves of solid fuels and mineral commodities and CRIRSCO's classification

China has created a set of well-developed technical standard systems of mineral resources and reserves and the well-established management systems of mineral resources and reserves under the framework of such technical standard systems. As the central factor of technical standard systems and the technical rules and regulations of mineral resources administration, classification determines how the mineral resources are managed and the capital market operates in a country. Due to the historical reasons, the existing classification applies better to the government's management of resources. In contrast, CRIRSCO classification turns more attention to the rules of market operation in which market plays a dominant role. Thus, two classifications differ not only in technology, but also in operation and social system as well.

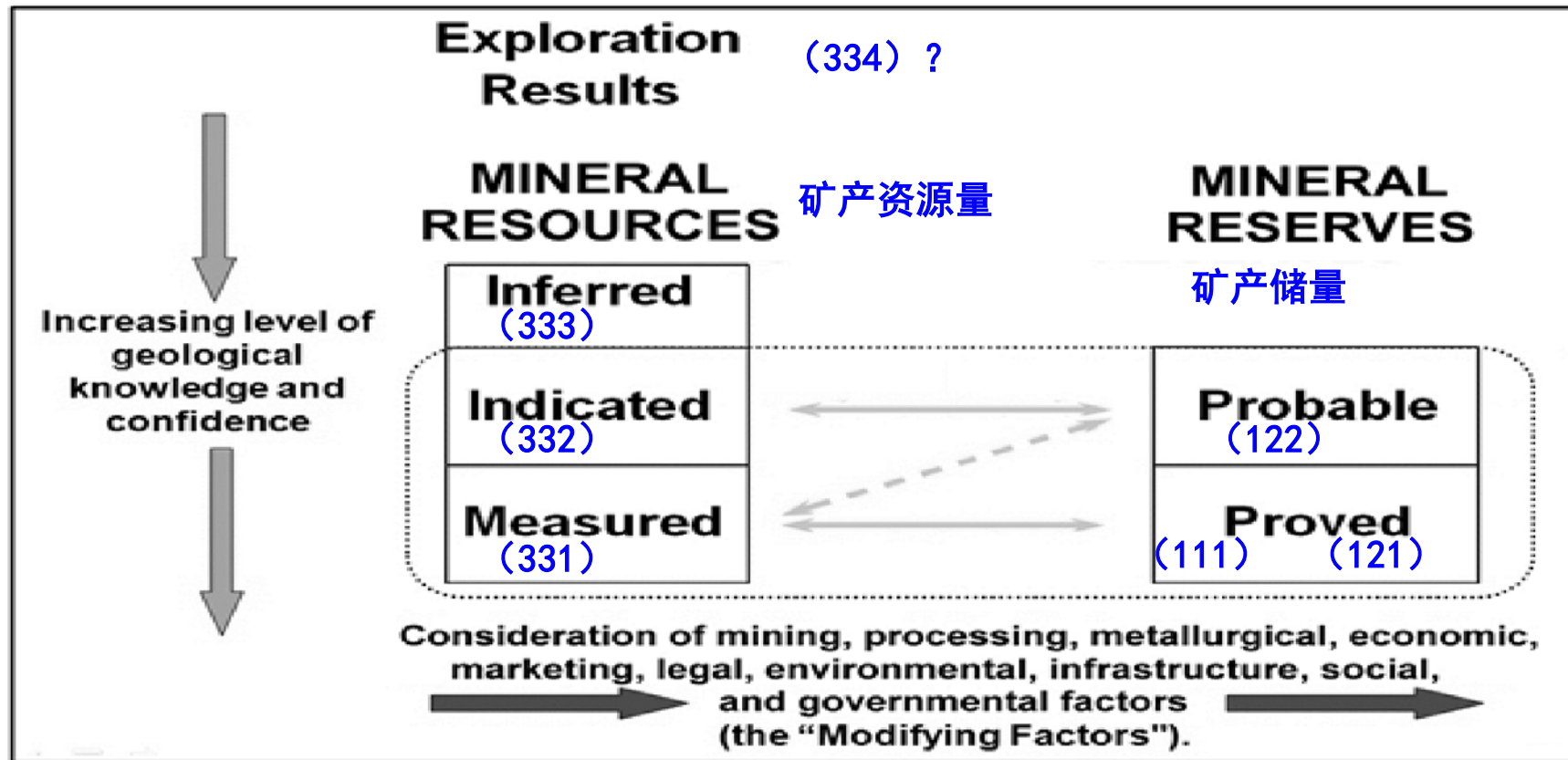
(一) Comparative study of classification for resources/reserves of solid fuels and mineral commodities and CRIRSCO's classification

Mapping between Chinese Classification and CRIRSCO Classification

| Chinese Classification | | | CRIRSCO Classification | | | |
|------------------------|-----------------------|-------------------|---------------------------------|---------------------------------|---------------------|-----------|
| Category | Sub-Category | Class | Category | Class | | |
| Mineral Reserves | Economic | (111) | Mineral Reserves | Proved | | |
| | | (121) | | | | |
| | | (122) | | Probable | | |
| Basic Reserves | | Marginal Economic | (111b) | Not defined in CRIRSCO Template | | |
| | | | (121b) | | | |
| | | | (122b) | | | |
| | (2M11) | | | | | |
| | (2M21) | | | | | |
| | (2M22) | | | | | |
| Mineral Resources | Sub-Marginal Economic | (2S11) | Not defined in CRIRSCO Template | | | |
| | | (2S21) | | | | |
| | | (2S22) | | | | |
| | Intrinsic Economic | (331) | | | Mineral Resources | Measured |
| | | (332) | | | | Indicated |
| | | (333) | | | | Inferred |
| | | (334) ? | | | Exploration Results | |

(一) Comparative study of classification for resources/reserves of solid fuels and mineral commodities and CRIRSCO's classification

Mapping between Chinese Classification and CRIRSCO Classification



(一) Comparative study of classification for resources/reserves of solid fuels and mineral commodities and CRIRSCO's classification

Conclusion: Two classifications are similar to each other in the definitions of mineral resources and mineral reserves, but different in following ways:

1. Different service targets: China's existing classification serves the national management of resources and the domestic capital market of mining industry, but CRIRSCO's classification is mainly prepared for capital market.

2. Different definitions of terms:

- China's classification of mineral resources include pre-prospected resources (334)? Which is economic-interest undefined; CRIRSCO's classification defines the resources with the similar degree of geological knowledge and confidence as the exploration result.

(一) Comparative study of classification for resources/reserves of solid fuels and mineral commodities and CRIRSCO's classification

- China's (333) Resources include the part extrapolated by measured and indicated resources or basic reserves; CRIRSCO's inferred mineral resources don't include such part.
- China's definitions of resources (331), (332) and (333) have the definite requirements for the performance of mineral processing, of mineral deposit exploitation technology, and technical studies ; CRIRSCO's classification of resources doesn't have the definite requirements.

(一) Comparative study of classification for resources/reserves of solid fuels and mineral commodities and CRIRSCO's classification

- The reserves in CRIRSCO's classification contain depleted materials involved in the mining process, but China's classification doesn't include such materials.
- China's classification standard only permits the conversion from the proved basic reserves to (111) with technological feasibility and economic rationality as proved in the feasibility study; but CRIRSCO's classification implies the circumstances where ten “Modifying Factors ” in pre-feasibility study can be determined, and measured resources can also be converted to proved reserves.
- The feasibility study in CRIRSCO classification focuses on the conversion between resources and reserves, but China's feasibility study focuses on the feasibility demonstration of construction projects.

(二) Study of Solid Mineral Reserves Information Disclosure Rules and Management System for the Capital Market

After study international common and classic nations information disclosure rules for solid mineral resources and reserves and investigate China mining capital market operating status include current management system and reference results of other studies.

It has achieved initial results for the study of solid mineral reserves management system for the capital market which including the purpose, terminology, definition, scope, content of disclosure, standards, disclosure procedure, legal responsibility, supervision method etc,

(二) Study of Solid Mineral Reserves Information Disclosure Rules and Management System for the Capital Market

Comparative study of Management System for the Capital Market

| | 加拿大 Canadian | 澳大利亚 Australian | 中国 Chinese | CRIRSCO |
|--|----------------------------|------------------------------|--|--------------------------|
| 标准、模板类文件 Document for Standards, Template | 矿产资源量和矿产储量的CIM定义标准 | 澳洲勘探结果，矿产资源和矿石储量报告法规（JORC规范） | 固体矿产资源/储量分类 | 勘查结果、矿产资源和矿石储量公开报告国际报告模板 |
| | 矿产资源量和矿产储量估算的最佳实务指南 | | 固体矿产勘查规范总则； 固体矿产勘查/矿山闭坑地质报告编写规范；《固体矿产资源储量核实报告编写规定》等 | |
| | 勘查最佳实务指南 | | | |
| 法规类文件 | 加拿大国家文件NI43-101：矿产项目披露项目标准 | 第5章：外增对矿业、油气生产与勘查活动报告 | 矿产资源储量评审认定办法； 上市公司行业信息披露指引第三号—煤炭 | |
| | 表格43-101F1技术报告 | 指导注解31：对矿业活动的报告 | | |
| | 附加政策43-101CP | 不清楚 | | |
| | 矿产公司从事勘探、开发和生产的信息披露标准 | 缺失 | 缺失 | |
| 评估类文件 | 矿产估价标准和准则（CIMVAL制定） | The VALMIN Code | 中国矿业权评估准则(2011年) | |

(二) Study of Solid Mineral Reserves Information Disclosure Rules and Management System for the Capital Market

Understanding the Information Disclosure System of China Mining Capital : Government Regulation, Market Rules and Technical Standards

- in government regulation and market rules level:
 - Lack of professional guidelines and should be supplemented mainly
 - The definition of legal liability in disclosure subject and process needs further study
- In technical standards level:
 - The overall level of technical standards for various types of exploration are higher than that of foreign standards should connecting mainly.
 - Involving the disclosure of some do not meet the market, should be supplemented, revised mainly (such as the lack of disclosure of the report template)
 - Disclosure of the implementation of the main body and process settings need further study

(三) Capital Market Petroleum Resources Classification and Disclosure Regulation

The existing petroleum resource classification of our country is mainly based on the demand of the resources government management. The classification is divided into 7 levels and 24 categories according to the stage of exploration and development, the geological reliable degree and productivity level.

The measured PIIP, indicated PIIP and inferred PIIP of the existing classification system are the symbols of the classification for evaluating the degree of the petroleum exploration and have been widely accepted in the petroleum industry. But the current classification system is not fully considered the capital market requirements.

(三) Capital Market Petroleum Resources Classification and Disclosure Regulation

Therefore, combined the characteristics of China petroleum resources management and the international capital market, used cross classification method and established the new petroleum resource classification framework.

Based on the two aspects of the PIIP and the recoverable resources volume, the basic categories are divided into two parts which are applicable for the resources management and the capital market management separately.

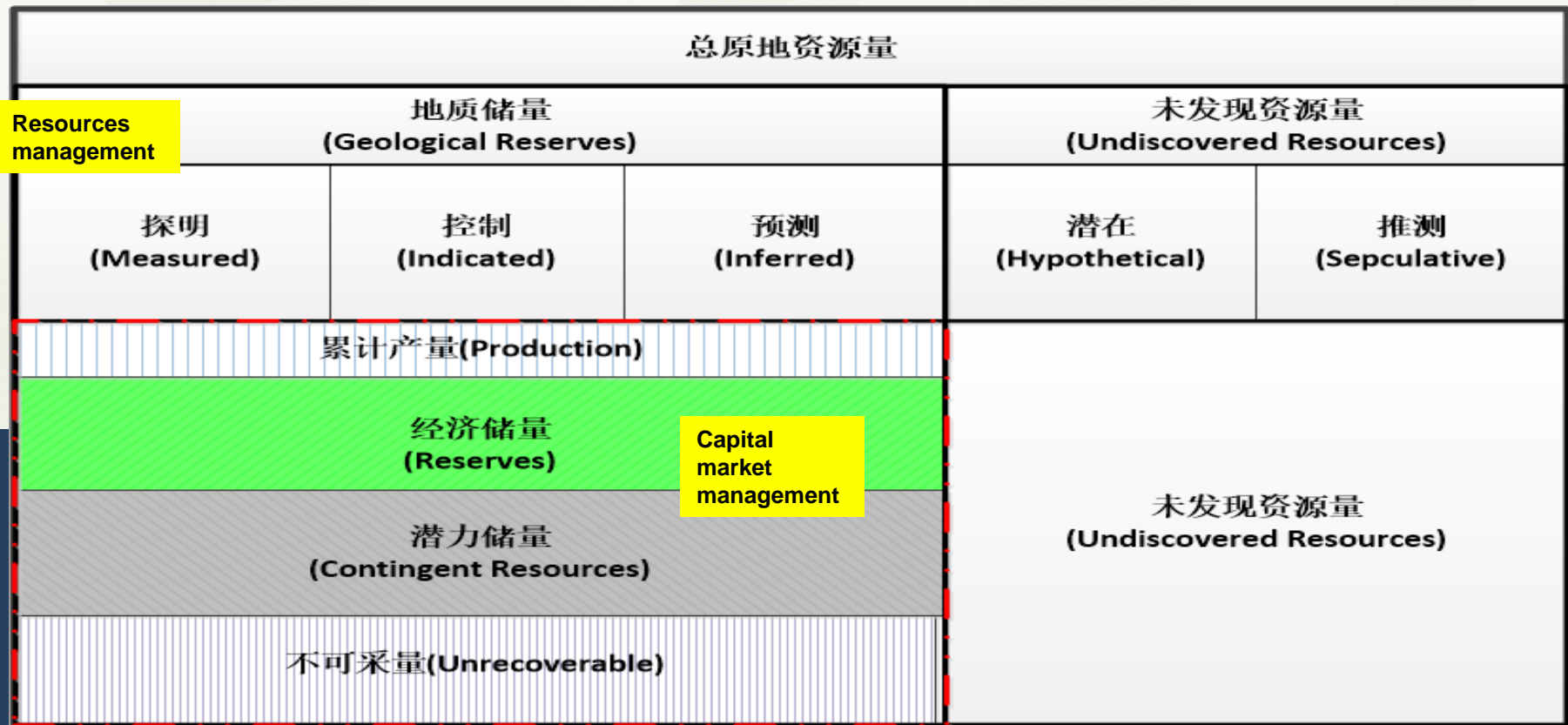
The resources management inherited the existing classification principles. The capital market management is based on the international classification principle.

Resource
PIIP

Petroleum

Property
recoverab
le volume

(三) Capital Market Petroleum Resources Classification and Disclosure Regulation



(三) Capital Market Petroleum Resources Classification and Disclosure Regulation

Reserves disclosure in the Securities market

According to the results of the study and the requirements of the reserves disclosure from China Securities Regulatory Commission, Shanghai Stock Exchange released the “the notice of the No. 8 to No. 13 for the disclosure guidance in Shanghai Stock Exchange (the Shanghai stock exchange [2015] No. 96) on 11 Dec, 2015.

No. 8: The disclosure guidance for the listed companies in oil and gas industry.

The key points of the disclosure regulation for the listed companies of the oil and gas industry:

Item 2: the listed companies shall disclose the proved reserves, including the volumes and values of reserves.

Item 4: the listed companies shall disclose the following reserves information by the end of the reported date.

Item 5: the listed companies shall disclose the following reserves information by the end of the reported date.

Item 6: The listed companies are required to disclose the reserves information and the evaluation regulations as well, the internal control measures that are used in the reserves evaluation and the qualification of the main technical evaluators.

一、Progresses Made

Understanding of the Study

- The traditional characteristics and advantages in resource assessment and estimation should be adhered to in the revision of the new classification system
- The new classifications of oil and gas in China have inherited the current classification principles in China and integrated international general classification principles into the capital market, which provides a good reference for revising classification of solid mineral resources reserves.
- The establishment of the information disclosure rules for mineral resources and reserves in the capital market should learn and reference from the common practice of international capital market and improving of the conversion mechanism from resources to reserves.
- Establishment of mining capital market should consider government regulation, market rules and technical standards etc.

二、Recently Reform Policies for Mineral Resources and Reserves Management in China

- Formally abolition of mineral reserves valuer qualification system. Whether to change the style of level of evaluation is still being discussed
- Formal abolition the qualification for preparing the mineral reports which including almost all of reserve calculation of reserves associated with the technical report reserves assessment
- These two reform policies are significantly impact to China Mineral Resources and Reserves Management. China has to establish the new mechanism for the Resources and Reserves valuation system. Including listing reserve valuation and information disclosure rules

三、Next Step

- Further carried out the relevant studies. Organizing the comparative program of China mineral resources and reserves classification with CRIRSCO classification and revision of relevant technical standards for listing reserves valuation code rules etc.
- Further communication with other government departments such as China Securities and Regulatory Commission and continually carrying out the feasibility study for the China join CRIRSCO.
- Continue to maintain good communication with CRIRSCO and advance the process of joining CRIRSCO

Conclusion

- The valuation, disclosure and supervision of the mineral resources and reserves management system reform is the important element for listing reserves.
- Construction of mining capital market in China is involved functions of multiple State Departments needs cooperation and communication and are also involved revision of several relevant laws and regulations, It is required the approval by the State Council.
- Join CRIRSCO is the important part of China mining capital market construction. As the relevant government department for land and resources, The Ministry of Land and Resources will actively promote exchanges and cooperation with CRIRSCO and other related government department to promote China join CRIRSCO.

Finally, we are sincerely thanks and respect CRIRSCO for the attention and help given by CRIRSCO.