

NATIONAL REPORTING ORGANIZATIONS – ANNUAL REPORTS 2021 – 2022



COMMITTEE FOR MINERAL RESERVES
INTERNATIONAL REPORTING STANDARDS



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JOHANNESBURG – SOUTH AFRICA, OCTOBER 2022

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1. CHAIRPERSON'S REPORT

1.1. Introduction

It is hard to believe that one full year has passed after CRIRSCO's Annual General Meeting!

Time to make the balance for the year, checking our goals, reflecting on what went well and what could be improved, learning with our mistakes, and planning for a better year.

The National Reporting Organizations Annual Report is a very important summary of the activities performed at the regional and national level on behalf of all CRIRSCO members, not only a source of information but also a good opportunity for identifying some best practices and common challenges, fostering the cooperation between all members.

As a best practice, this year we are also incorporating our Chairperson's Report to the same document, so it is more complete, and all information related to CRIRSCO activities in the year can be easily accessed.

1.2. The 2022 Executive

The following were the members of the Executive in 2022:

- **Chairperson:** Edson Ribeiro – CBRR (Brazil)
- **Deputy-Chairperson:** Garth Kirkham – CIM (Canada)
- **Past-Chairperson:** Ken Lomberg – SAMREC (South Africa)
- **Treasury:** Peter Stoker – JORC (Australia)
- **Secretary:** Wilfredo Lopez – CCRR (Colombia)

1.3. The 2022 Action Plan and the Implemented Strategy

The following actions were discussed and approved by CRIRSCO members during the Annual General Meeting:

1. Development of a new website, with the support of ICMM.

2. Development of a repository for CRIRSCO documents and correspondence.
3. Distribution of branding material to all members.
4. Incorporation of CRIRSCO as a legal entity: Neil Wells received go ahead, with support from ICMM. This initiative will include new drafts of the CRIRSCO Constitution and Code Revision.
5. Have at least one in person meeting for the CRIRSCO Executive each year.
6. The Executive should meet with all Standing Committees, defining a reporting calendar and setting priorities.
7. Quarterly feedbacks from the Executive to all members.
8. The Executive will send letters to all NROs asking them to confirm representatives for more than two years, to improve their engagement with CRIRSCO including possibility to join the Executive.
9. Working group for Standard Definitions updates was created with the following members: Stuart Masters, Ed Sides, Thomas Brenner, Gerlee Bayanjargal, Wilfredo Lopez, Roger Dixon, Nikolai Yenshin and Ken Lomberg.
10. Working group for ESG factors on MRMR reports was created with the following members: Roger Dixon, Don Hulse, Stuart Masters and Deborah McCombe, with the support from Teresa Steele-Schober and Sarah Gordon. Quarterly feedback for the Executive.
11. A new working group will be appointed by the Executive to prepare a draft proposal for the inclusion of brines in the Template. This will be coordinated by Roger Dixon and include members from CIM and JORC.
12. The Executive will present a proposal on how to deal with Management of Tailing Facilities, consistent with the ICMM best practices.

The implemented strategy was based on the reinforcement of the Standing Committees and the Working Groups, through some very simple steps:

1. Clear communication of the composition of all SCs and WGs: an Excel file was shared with all members and uploaded to the website, listing all representatives and their allocation to the various groups. For each SC and WG a Coordinator was appointed

2. Setting an Annual Calendar: another file was shared and uploaded, showing the expected dates for internal meetings and meetings with the Executive.
3. Setting priorities: the Executive has met with all Standing Committees, explaining their role and setting the priorities for the year, consistent with the action plan approved by the full Committee in 2021
4. Follow-up: along the year, the Executive had follow-up meetings with the Standing Committees, providing support and asking for their progress

The following meetings were planned and executed until mid-year:

January

13: CRIRSCO Executive meeting

20: Meeting CRIRSCO Executive and ICMM: website upgrade and secretarial services

20: Meeting Edson Ribeiro/Peter Stoker/Pat Stephenson: representation at ISA

February: Standing Committees

02: Meeting CRIRSCO Executive and Standing Committee for Communication and Publicity

10: Meeting CRIRSCO Executive and Standing Committee for Administration

17: Meeting CRIRSCO Executive and Standing Committee for External Relationship

24: Meeting CRIRSCO Executive and Standing Committee for Finance

March: Working Groups

10: Meeting CRIRSCO Executive and Working Group for ESG

15: Standing Committees Meetings (Chairs to schedule)

17: Working Groups Meetings (Chairs to schedule)

24: Meeting CRIRSCO Executive and Working Group for Standard Definitions (postponed)

April:

21: ISA Presentation by Pat Stephenson to all Members

31: UNECE Presentation by Roger Dixon to all Members

May: Standing Committees

05: Meeting CRIRSCO Executive and Standing Committees for Communication and Publicity

19: Meeting CRIRSCO Executive and Standing Committee for Administration

19: Meeting CRIRSCO Executive and Standing Committee for External Relationship

19: Meeting CRIRSCO Executive and Standing Committee for Finance

31: UNFC Presentation by Roger Dixon to all Members

June:

13-15: PDAC official delegation

15-18: Standing Committees Meetings (Chairs to schedule)

22-25: Working Groups Meetings (Chairs to schedule)

Meetings with the Executive in September were not confirmed, and the calendar will be resumed in October with the AGM.

After a very strong start of the year, the SCs faced some difficulties and could not deliver as planned, but important progress was made, and all tasks should be completed in the next year:

- Although the new website was not developed, a scope of work was agreed proposed by the Executive and validated by ICMM, with one service provider selected
- A presentation containing detailed explanation about all potential levels of recognition and reciprocity was updated in April and shared with all members together with a survey. Based on the received answers, the External Relations SC is preparing a white paper to serve as a guide

- The incorporation of CRIRSCO as a legal entity has not advanced much. Deborah McCombe was appointed the new coordinator for the SC and is reviewing the decision to incorporate CRIRSCO in the UK or in Canada, considering legal, tax and operational implications
- The Finance SC has done a good job managing the budget and accounts with SME and ICMM. Next year the goal is to implement online some tools to facilitate expenses reports and reimbursements

The ESG Working Group, led by Roger Dixon, was very active in 2022 and will present to all members their conclusions and recommendations during the 2022 AGM.

Regarding the other actions, ICMM opened its Teams platform to host CRIRSCO documents and meetings (documents can also be found in our website), the full branding material is available at our website, meetings with the Executive were all held on the first half of the year.

1.4. Additional Activities

Other important activities performed by the Executive in 2022 included the communication with ICMM and ISA, the official mission to the PDAC and the response to consultations from the Canadian Security Administrators regarding potential updates of the NI 43-101 and from the Financial Services Regulatory Authority of Abu Dhabi for the Enhancement of ADGM Capital Markets Framework (official letters can be found at our website).

1.5. New Membership

The Executive remained engaged with the active Membership Working Groups and potential candidates. Although no new membership was recommended to the Committee in 2022, the Philippines, China, West Africa, Peru and Ecuador processes are more advanced and are expected to be concluded soon.

We were also contacted by the Kingdom of Saudi Arabia and Kyrgyzstan, who were invited to the AGM as observers.

2. AUSTRALIA – JORC

2.1. The number of registers/affiliations in the period and accumulated, broken down by membership category

JORC does not have individual members, other than committee members. Professionals involved in the public reporting of Exploration Results, Mineral Resources or Ore Reserves usually belong to:

- The Australasian Institute of Mining Metallurgy (AusIMM); and / or the
- Australian Institute of Geoscientists (AIG).

2.2. The number of applications in total, approved, rejected, partial (other)

JORC does not have individual members, other than Committee members. Professionals involved in the public reporting of Exploration Results, Mineral Resources or Ore Reserves must belong to:

- The Australasian Institute of Mining Metallurgy (AusIMM); and / or the
- Australian Institute of Geoscientists (AIG), or
- A Recognized Professional Organization (see <https://www.asx.com.au/documents/regulation/list-recognised-professional-orgs-march-2014.pdf>).

2.3. Complaints, number of complaints, how many are in progress, concluded with sanctions and concluded with no penalties

Complaints about individual members are made through their respective professional institute. The following information summarizes these complaints in the 2021 calendar year. A summary of complaints will be included in the JORC Competent Person Baseline Study Report, which is about to be released by the AusIMM / AIG Joint Taskforce on Competent Persons.

2.3.1. The AusIMM

In 2021 twelve complaints were submitted to end December which represented a marginal decrease when compared to 2020 where fourteen complaint submissions were investigated and concluded. Of these five related to JORC Code breaches as follows:

- An alleged breach of clauses 4, 19 & 49 of the JORC Code (2012 edition). This case was suspended in accordance with clause 9(a) of the 2021 Professional Conduct Regulations when the respondent resigned their AusIMM membership. Clause 9(a) states:

'.... confirm the person named as respondent to the complaint is a current member and a member at the time the alleged breach occurred. If a member resigns during the investigation of a complaint, then that member shall not be eligible to reapply for membership for a minimum period of five years or longer if agreed by the Board;'

In this instance the board applied a prohibition on membership renewal of five years.

- In two cases allegations were made concerning:
 - A breach of JORC Code, clause 11; and
 - A breach of JORC Code, clauses 9 & 13 and AusIMM Code of Ethics, clause 6.

These cases were not accepted by the Professional Conduct Committee, although the issues raised in in one case prompted the PCC to recommend a policy consideration to the Board.

- In two cases allegations were made concerning:
 - A breach of JORC Code, clause 51 resulting in the issue of a caution
 - A breach of JORC Code, clause 20 & VALMIN Code, clause 6.3 resulting in the issue of a caution.

2.3.2. AIG

AIG has not released specific reports to members relating to complaints but does include information on the number of complaints relating to members' conduct dealt with each year in the President's report to members included in the proceedings for each Annual General Meeting which are available from the AIG website www.aig.org.au.

AIG received and is dealing with 15 complaints, all JORC related, during 2022 to 30th June. This compares with 37 complaints in calendar year 2021 related to JORC issues. The upturn in complaints during 2021 and 2022 was due to AIG initiating random reviews of ASX announcements requiring compliance with the JORC Code. The objective of this review was to provide information for the Competent Person Baseline Study and to identify needs for targeted education and training for members. Announcements by both AIG and AusIMM members were reviewed. Identified compliance issues by AusIMM members resulted in complaints being formally submitted for review by the Institute. A number of public reports were issued without a Competent Person being nominated, in which case, announcements were brought to the ASX's attention.

All 2022 complaints finalized resulted in Members being cautioned regarding aspects of their public reporting practices.

2.4. Professional training initiatives organized by the NRO

While JORC itself does not organize professional training, relevant courses are hosted by parent bodies AIG and AusIMM. Several JORC Committee members were involved in the development of the AusIMM course and many of these same committee members continue to contribute their time and skills to refine the course and take part in its delivery each year, independently of their JORC membership.

2.4.1. AusIMM

AusIMM has conducted two (2) of its 'Online Professional Certificate in JORC Code Reporting' courses for 208 attendees in the reporting period. Attendees are domiciled in Australia (62%) and international (38%). The completion rate is 87% and the approval rate is 97%.

Note this is a course in how to report. Completion of the course does not qualify the attendees to claim to be Competent Persons. (<https://ausimm.com/courses/jorc-code-reporting/>).

2.4.2. AIG

The AIG conducted three (3) of its five-part on-line '**JORC Code Webinar Series**' during 2021.

Workshop 1	Introduction to the JORC Code
Workshop 2	JORC Code: Reporting Exploration Results and Targets
Workshop 3	JORC Code: Reporting Mineral Resources
Workshop 4	Integrating ASX Rules with the JORC Code

There was a separate session which covered the common issues raised in Workshops 2-4.

AIG's JORC Workshops had the following attendees who completed their sessions:

Workshop	Workshop 1	Workshop 2	Workshop 3	Workshop 4
Mar-21	14	21	23	14
Aug-21	25	21	23	14
Nov-21	11	23	18	14

2.5. List of other events, conferences, etc.

Although JORC doesn't organize these types of events, JORC has presented at several conferences throughout 2021-22 to provide industry stakeholders an understanding of the Code update process and status. These include:

- Competent Person Discussion Forum (Brisbane, 24 March 2022)
- Bowen Basin Symposium (Mackay, 28 March 2022)
- Competent Persons Discussion Forum (Perth, 30 May 2022)
- AusIMM Central Victorian Branch 'Narrow Vein 2022 Regional Symposium' (Ballarat, 12th August 2022)

2.6. Other Key Activities

2.6.1. Review of the JORC Code

JORC has resolved to undertake a detailed review of the JORC Code provisions and procedures, to maintain professional standards and to satisfy the ongoing governance requirements of the ASX and ASIC. The review process commenced late 2020 and is still progressing.

An online survey was conducted late 2020 and key issues identified. In addition, JORC held meetings with representatives from each Australian State Mining Departments and the New Zealand Geological Survey requesting feedback related to non-public reporting use of the JORC Code.

A series of Working Groups were established in August 2021 to provide recommendations of potential changes to the JORC Code. The outputs were consolidated into a working draft updated Code, which is now under regulatory review. Once received, the feedback from ASIC and ASX will determine further areas of revision to the Code.

In parallel with this review, JORC Parent Bodies formed a Joint Taskforce to review the requirements and procedures for nomination (including verification) of Competent Persons under the JORC Code. A series of Discussion Forums were held, and stakeholder engagement is ongoing.

The Joint Taskforce also commissioned a 'Baseline review' of competence under the JORC Code, including a comparison of requirements across the CRIRSCO codes and standards. This study which is likely to be released late 2022.

2.6.2. Other regulatory reviews

JORC responded to requests for comment on:

- FSRA Consultation paper No. 1 of 2022 - Enhancement of Abu Dhabi Global Market (ADGM) Capital Markets Framework in June 2022. These rule changes which now include a mining capital market, allow reporting under the JORC Code, NI-43-101 and SAMREC, and
- The Canadian Securities administrators (CSA) Consultation Paper 43-101 in early September 2022.

3. BRAZIL – CBRR

Julio Cesar Nery Ferreira, President of CBRR
Edson Ribeiro, CRIRSCO Representative
Thomas Brenner, CRIRSCO Representative

This short report summarizes the CBRR activities between September 2021 and August 2022, with the intention of sharing information with other CRIRSCO members.

3.1. Support to CRIRSCO activities

CBRR has been actively engaged in supporting CRIRSCO with the organizational process and affiliation procedures for new potential country members.

Edson Ribeiro is more focused on the international collaboration. Member of the CRIRSCO Executive (Secretary 2018/19, Deputy Chairperson 2020/21, Chairperson 2022), the Standing Committee of External Relationships, Education & New Members and of the Working Groups for the admission of Indonesia, China, Colombia, Peru, Ecuador and Argentina.

Thomas Brenner is more focused on the internal activities in Brazil, including the organization of several seminars, short courses and the 2022 release of the CBRR Guide for Public Reporting. Member of the CRIRSCO Standing Committee of Communication and Publicity and the Working Group for the admission of Peru. In early 2022 he joined the CRIRSCO ESG Subcommittee representing CBRR, including three CBRR registered ESG consultants.

3.2. Brazilian Legislation on Resources and Reserves

The normative act (Resolution 94/2022) regards the Brazilian resources and reserves declaration was published by the Brazilian Mining Agency (ANM) on February 7th, 2022. It aligns Brazilian declaration to the international accepted standards and creates the Brazilian System of Mineral Resources and Reserves (SBRRM). The Resolution text considers "the international public reporting models for declaring exploration results, resources and reserves prepared by the Committee for Mineral Reserves International Reporting Standards (CRIRSCO), represented in Brazil by the Brazilian Commission of Resources and Reserves (CBRR)".

The Brazilian System of Mineral Resources and Reserves (SBRRM) is based on the international concept of “public declarations” – defined as documents that must contain the summary of information on exploration results, resources and mineral reserves in each of the stages of mineral exploration carried out by the holder of the mineral right.

The objective of the SBRRM is to publicize and provide transparency to the mineral exploration activities carried out in the country. The submission of a separate Public Disclosure report is not mandatory for the mineral right owner, and the system data can be accessed by anyone, not being subject to the secrecy rules currently in force. It is important to note that the Public Disclosure Report is not mandatory, but all standard definitions listed by CBRR are mandatory for the official reports to the Government.

The ANM should publish complements and clarifications in resolutions that specify the “minimum criteria” of the technical documents, since this practice is not the domain of most Brazilian professionals and mining companies, especially the small ones.

3.3. QP Registration

Between September 2021 and August 2022 CBRR received 72 applications for registration. After document analysis and interviews with the candidates and sponsors the Register Committee has approved 30 (in total or partially), five candidates declined (as they were partially approved), 17 applications were denied and 20 are still in process.

Below is a chart showing the number of Registered Qualified Professionals of CBRR as per area of knowledge.

Table 1: Registered Qualified Professionals of CBRR.

Area of knowledge	Number of Professionals
Mineral Exploration	62
Mineral Resources Estimation	57
Mineral Reserves Estimation	39
Mineral Processing	12
Mining Operation	11
Environment and Sustainability	4
Economic Evaluation of mineral assets	2

Brazilian Mining Regulation	5
Geotechnics	7
Total of CBRR Registered Qualified Professionals as at August 17th 2022	130

*A Registered Qualified Professional can be certified simultaneously in different areas of knowledge.

3.4. Invest Mining Network

At the end of 2021, it was created the “Invest Mining” Network, formed by representatives of public institutions and private entities, financing and regulatory agents, on a voluntary basis, which aims to promote mining activities in Brazil, as well as the expansion and diversification of mineral production and increasing the amount of mining companies operating in the country, promoting actions that result in investments in mining and fundraising in the capital market.

The idea is to propose regulatory improvements and provide companies with minimum standards of governance and sustainability, capable of attracting and increasing the application of resources and investments in mineral ventures, minimizing financial risks in the mineral sector and mobilizing traditional or innovative financing mechanisms to support sustainable projects in Brazil.

CBRR is one of the supports of the Invest Mining network.

3.5. CBRR participation on mining events

On August 2022, CBRR members (Alessandro Silva, Thomas Brenner, João Felipe and Rodrigo Peroni) gave presentations at the Datamine event, that took place in Belo Horizonte. The sessions discussed about Exploration, Database systems, QA/QC, Modeling, Mine geology and Open pit operations.



Figure 1: CBRR members.

3.6. CBRR Guide update

CBRR Technical Committee has revised its Guide for public reporting of mineral resources and reserves and the new 2022 CBRR Guide brings a substantial change in content and format, strongly aligned with the CRIRSCO 2019 Template.

The major differences are highlighted below:

- New format like the CRIRSCO 2019 Template layout, with clear identification between Definitions, Codes and Guidance's.
- Introduction of the title "Exploration Information", encompassing the definitions "Exploration Result" and "Exploration Target", aligned with the 2017 SME Guide.

- Replacement of the item “Environmental Aspects, Occupational Safety and Health” (Item 12 and Table 1) by the ESG definitions, following the 2021 Perc Reporting Standard. Figure 1 has been updated to include the ESG term in the modifying factors reference.
- Table 1 was modified to display distinct columns for Exploration, Mineral Resources and Mineral Reserves, reflecting the new CRIRSCO and PERC templates.
- Introduction of Table 2 – Guidance for Technical Studies (Scoping, Pre-Feasibility and Feasibility).
- Other Declaration sections included as Appendixes.
- Withdrawn of the Recognized Professional Organization list.

The new 2022 CBRR guide should be sent to CRIRSCO approval in the next days.

3.7. CBRR New Committee of Continuous Professional Development

CBRR Directors approved the creation of the Continuous Professional Development Committee, responsible for fostering continuous professional development and promoting specific training programs for CBRR's Qualified Professionals (QPs), including integration with Latin American NROs. The committee is currently working on the elaboration of a Continuous Professional Development Guide to conduct and provide tools for measuring QPs continued development hours in a given cycle. In addition, this committee intends to promote events that contribute to QPs development and their integration.

3.8. CBRR New Board of Directors

At August 18th, 2022, CBRR had its election for the 2022-2024 biennium. The president for the period is José Ricardo Thibes Pisani, QP in mineral exploration, mineral resources and reserves estimation and former member of the Registration Committee. His vice president is Thomas Brenner, QP in mineral exploration and former Technical Report Committee and CBRR representative with CRIRSCO.

3.9. CBRR representatives

CBRR representatives with CRIRSCO will remain the same for another 1-year period: Mr. Edson Ribeiro and Mr. Thomas Brenner.

4. CANADA – CIM

Canadian Institute of Mining Report

Representatives (s): Garth Kirkham, Deborah McCombe



Canadian Institute of Mining,
Metallurgy and Petroleum
Institut canadien des mines,
de la métallurgie et du pétrole

Ongoing initiatives

- The development and updating of the following documents:
 - MR and MR Definitions (2014)
 - CMP Metallurgical Best Practices
 - ESG Guidelines
 - Coal Resources and Reserve Estimation Best Practices
 - Exploration Targets Definitions and Guidelines
 - Industrial Minerals Best Practices
 - Lithium Brine Guidance
 - PEA/Scoping Study Definitions
 - Treatment and Disclosure of Streaming Agreements in MRMR Disclosure
 - Uranium Resources Best Practices and Guidance
- Standardizing the format of existing Best Practice documents.
- French translation of the CIM Mineral Exploration Best Practice Guidelines.

Highlights since last report:

- The MRMR Committee has prepared an official response to CSA Consultation Paper 43-401 – Consultation on National Instrument 43-101 Standards of Disclosure for Mineral Projects.
- Guidance about the meaning of the term “best practices” has been written which will be included in the preface before all published documents.

Any changes that CIM should be made aware of:

1. The MRMR Committee's response to the CSA Consultation Paper can be found in a separate document.
2. Notice to Reader:

The Practice Guidelines reflect CIM's current views of leading practices in exploration, mineral resource estimation and mineral reserve estimation. Experience has shown that over time leading practices become industry accepted practices. Current industry accepted practices are context specific and are expected to continually evolve as industry experience increases and as public expectations, market expectations, and government legal frameworks change. Guidelines are intended to be updated on a periodic basis; readers should consult the CIM website at www.cim.org to ensure that they are referring to the current version.

4.1. Introduction

The following is a summary of the activities of the CIM Council and the CIM Mineral Resources and Mineral Reserves (MRMR) Committee. This committee is supported by various sub-committees which are appointed from time to time to address specific issues and/or commodities.

4.2. Review and Update of Best Practice Guidelines for Industrial Minerals and Lithium Brines

An update of these guidelines is currently in progress.

4.3. Best Practice Guidelines for ESG and CSR Disclosure

CIM's Environmental and Social Responsibility Society (ESRS) is working on an industry best practice guidelines document to cover items in Section 20 of NI 43-101. A new draft for review is expected in Q3 2021.

4.4. Best Practice Guidelines for Mineral Processing

An update of these guidelines is currently in progress.

4.5. Coal Mineral Resource and Mineral Reserve Best Practice Guidelines

There was a modernization and improvement initiative for the Best Practices and Mineral Resources and Mineral Reserves guidelines for coal has been initiated. The goal is to replace GSC Paper 88-21 with a target date of completion of Q2 2023.

4.6. MRMR Definitions

Several CIM MRMR definitions such as an exploration target is being reviewed will be updated by the MRMR Committee by end of Q2 2022 to align with definitions in the CRIRSCO Template.

4.7. Treatment of Royalty and Metal Streaming in Mineral Resources and Mineral Reserves

A task group is studying the implications of metal streaming agreements within mineral resources and mineral reserves particularly related to cut-off grade.

4.8. UNFC

Ongoing participation and representation at the UNFC to insure continuity and encourage communication.

4.9. CSA Initiatives

The Canadian Securities Administrators (CSA) are observers on the MRMR Committee. Requests and initiatives are communicated and addressed from time to time.

4.10. Professional Registration

CIM does not regulate the engineering and geoscience professions in Canada, nor does it regulate and administer “qualified persons” or “competent persons”. In Canada, the professions are regulated by provincial and territorial associations.

5. CHILE – COMISION MINERA

During 2021 and 2022 only one complain was submitted to Commission. After a detailed review by the Board members, it was deemed it was not a Reporting Breach but a civil demand between private individuals. In this case it was suggested legal actions between those parties.

One professional complained the Admission Interview Committee rejected his application. The Board suggested a new panel to interview the person, however he didn't pass again because didn't have enough knowledge to become a Competent Person.

5.1. Professional training initiatives organized by the NRO

CM successfully organized several professional training activities on various subjects of interest. Since the difficulties due to Covid19 all training activities were held through video conferences; it is expected to start the presential ones in 2022. All the presentations of seminars and workshops are available at www.comisionminera.cl.

- July 2021 Seminar: "Latin American Seminar – International Practices in Mineral Resources and Reserves Estimations"
- August 2021 Workshop: "Guide on Life of Mine Technical Report in compliance with Code CH 20235 and Law 20551"
- September 2021 Webinar: "Reserves: The impact of costs as Modifying Factors". This webinar was aimed at understanding the effects on Reserves of a new royalty proposal by regulators in Chile. Two Mine Engineering professors from Universidad de Chile were lecturers.
- October 2021 2-Day Course: "Assessment and Valuation of Mining Assets"
- November 2021 Workshop: "Application of Artificial Intelligence in the Mineral Resources and Reserves Estimations"
- April 2022 Workshop: "Metallurgical Processes Reporting"

- June 2022 Workshop: “Guide for Technical Reports of Life of Mine of Mine Operations”
- Agosto 2022 Seminar: “Sustainability in Competent Persons’ Reports”
- October 2022 2-Day Course: “Stock Markets and Project Financing”. Planned as presential course.

5.2. List of other events

Commission organizes every January a diploma ceremony for new Competent Persons. During 2021 newly registered were 32 CPs; and as August 2022 the current number is 12 CPs. Chilean Mining authorities are always invited to these ceremonies.

In addition, CM sponsored FEXMIN, a Mineral Exploration Conference held in Santiago, Chile on 9-11 August 2022.

5.3. Other key activities

During 2021 CM -in agreement with Chile’s Ministry of Mines- released a document entitled “Guidelines for Resources and Reserves Reporting in Brines”.

In 2022, another document “Methodological Guide for Life of Mine Reports”. It was developed both by SERNAGEOMIN and CM to help Competent Persons prepare comprehensive reports that support Mine Closure Guarantees.

Significant progress made in the Chilean Code CH 20235 update. It has been a team effort to review and update some chapters to comply with current CRIRSCO template. It is expected to be completed by 2022-year end.

5.4. Board Renewal

During April 2021 a new CM Board was appointed until April 2024. Former Director Mr. Aquiles Gonzalez was elected President; Mr. Fernando Flores as Vice President; and Mr. Iván Cerda, Mr. Luis Bernal, and Mr. Waldo Cuadra as Directors.

During August 2022 Mr. Cuadra resigned for personal reasons, and he was replaced by Mr. Gonzalo Fuster.

Longtime employee since Commission started, Executive Secretary Ms. Gladys Hernandez retired. A farewell gathering in appreciation for her work was held in a Santiago restaurant. She was replaced by Industrial Engineer Ms. Ximena Caviedes having the office administration within her scope of work. (ximena.caviedes@comisionminera.cl)

6. COLOMBIA – CCRR

6.1. Introduction

The Colombian Commission on Mineral Resources and Reserves CCRR® releases the management report for the period 2021-2022. This year, the CCRR® developed the agenda outlined and maintained its annual work program and its good name by highest level both in Colombia and internationally.

The purpose of this report is to report on the activities carried out and to inform the board of directors of CRIRSCO and other National Reporting organizations (NROs) attached to this international organization of the activities carried out by the Colombian Commission.

6.2. CCRR® activities: August 2021 – July 2022

The CCRR® actively participated in various events this year virtually, the activities carried out during the period between August 2021-July 2022 are presented below.

6.2.1. Good practice guideline of instream material – GBPMA

In the development of this guide, the CCRR®, through Eng. Sergio Escudero on behalf of ASOGRAVAS, PC for the CCRR® was responsible for advising the team formed by the National Mining Agency of Colombia (ANM). The development of this Guide was carried out with a synchronized work between CCRR® and ANM, which has the specific objective of assisting geoscience professionals and mine owners in the work phases required for the exploration and estimation of resources and reserves of instream materials, with a focus on high quality and reliable work. In addition, with the implementation of best practices, mine owners will understand the value of the data generated during their operations and, in this way, it is possible to reduce the uncertainty inherent in the extraction of alluvial deposits. This allows optimizing the useful life of the deposits and achieving a sustainable exploitation (socially, environmentally and economically) of the mineral resources.

This guide was released to the public on October 14, 2021.



Figure 2: Official presentation of the Good Practice Guideline of Instream Material.

6.2.2. The CCRR® Annual Ordinary Assembly

The CCRR® Annual Ordinary Assembly was held on March 3, 2022, due to the current pandemic conditions it was carried out through the Zoom platform, with the participation of the founding associates, as well as the support of the observer and advisory bodies.

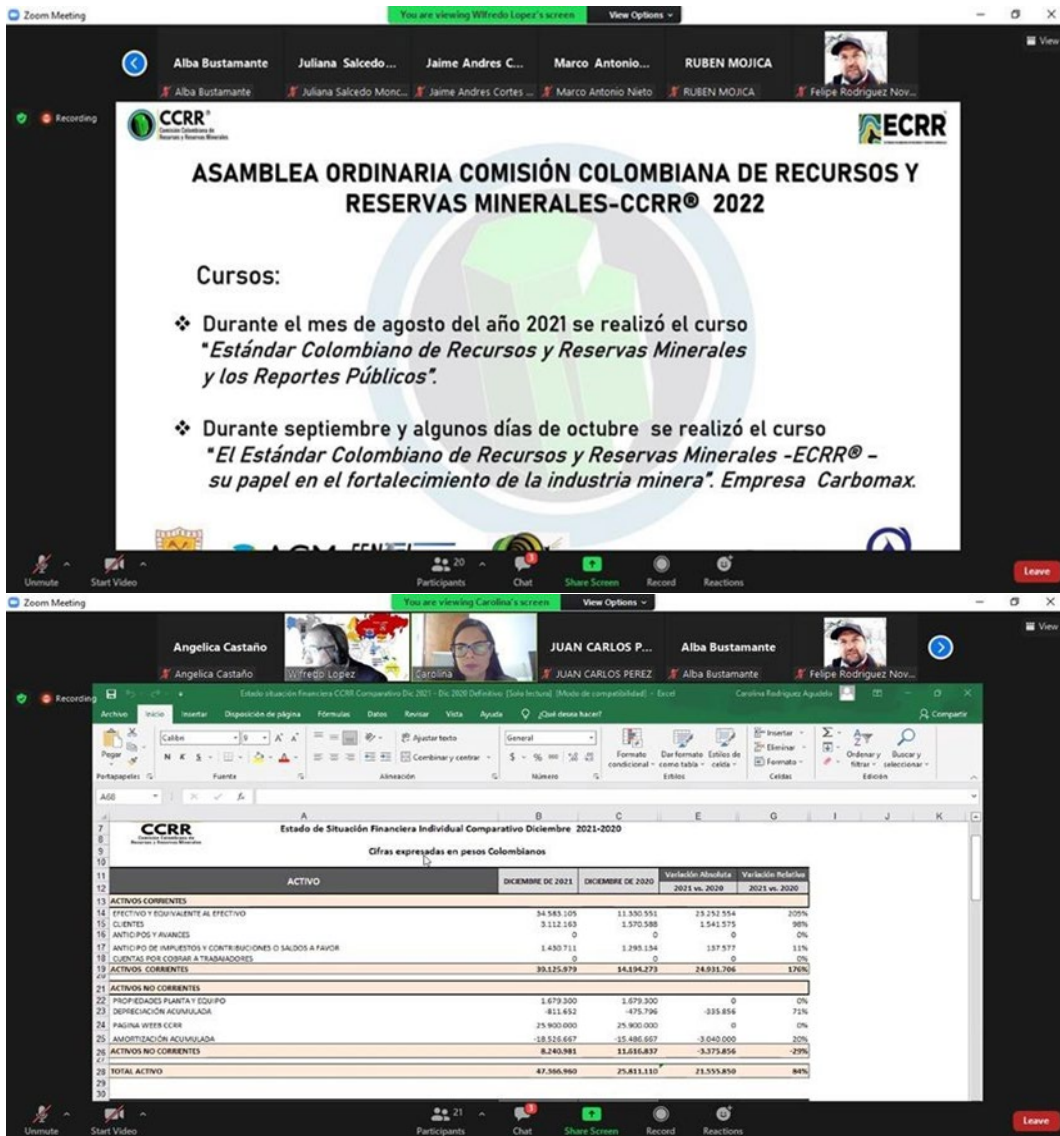


Figure 3: CCRR® Annual Ordinary Assembly 2022.

On March 3, 2022, the Annual Ordinary Assembly of the CCRR® was held with the participation of all the associates. In this assembly another new committee was established (Academic Committee) which will be in charge of leading the different courses offered by the CCRR®, and a new board of directors was elected as follows:

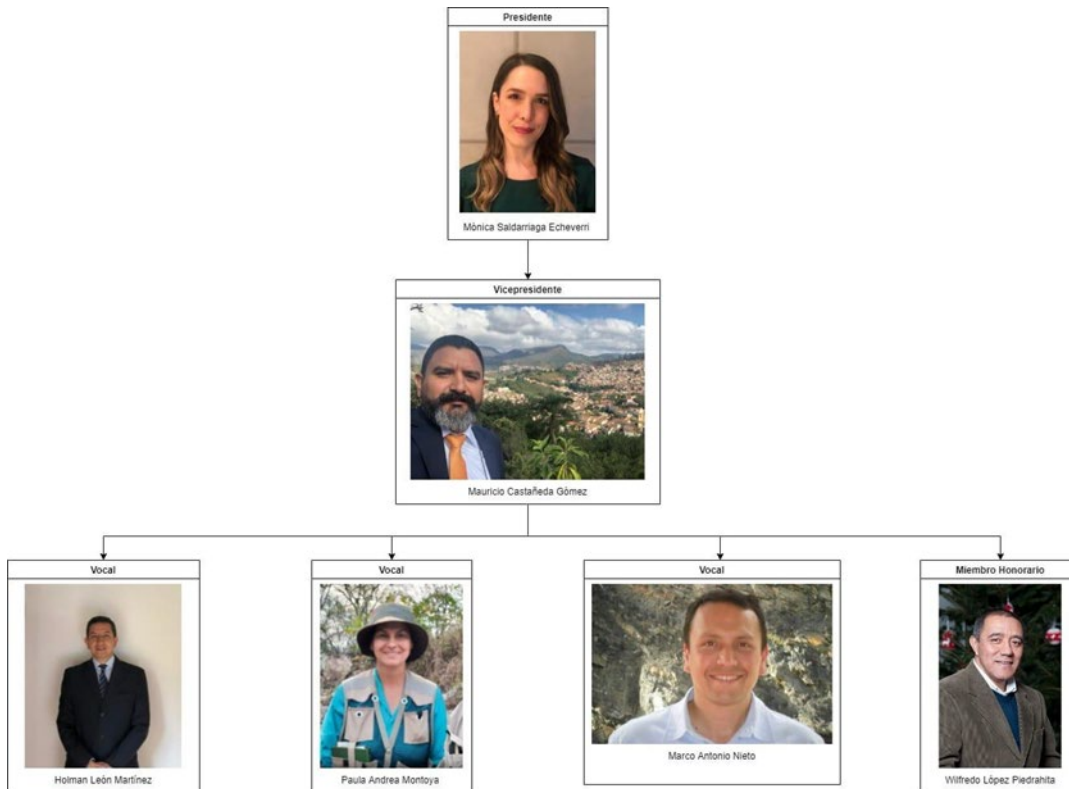


Figure 4: New board of directors.

During this meeting, the associates decided not to approve any more money for the management of social media, so these activities are currently being carried out by the CCRR® president and the executive assistant.

CCRR® social networks:

- Facebook profile:
 - <https://www.facebook.com/ComisionColombianadeRecursosyReservasMineras>

- LinkedIn profile
 - <https://www.linkedin.com/company/comision-colombiana-de-recursos-y-reservas-minerales-ccrr/?viewAsMember=true>

- Twitter profile
 - https://twitter.com/CCRR_Colombia

6.2.3. Good practice guideline of Gold Alluvial Deposits

Eng. Ramiro Jaramillo and Eng. Wilson Vélez, PC for the CCRR® on behalf of the AIMC, were responsible for advising the team formed by the National Mining Agency of Colombia (ANM). This guide was released to the public on May 10, 2022, with the participation of the new president of the CCRR® Mónica Saldarriaga Echeverri.



Figure 5: Official presentation of the Good Practice Guideline of Gold Alluvial Deposits.

6.3. Report of competent persons until July 2022

The CCRR® currently has 90 Competent Persons (PC), which have been distributed as follows for the last years:

- During 2019, 39 PCs were registered
- During 2020, 33 PCs were registered
- During 2021, 11 PCs were registered
- During 2022, 3 Professionals have been registered

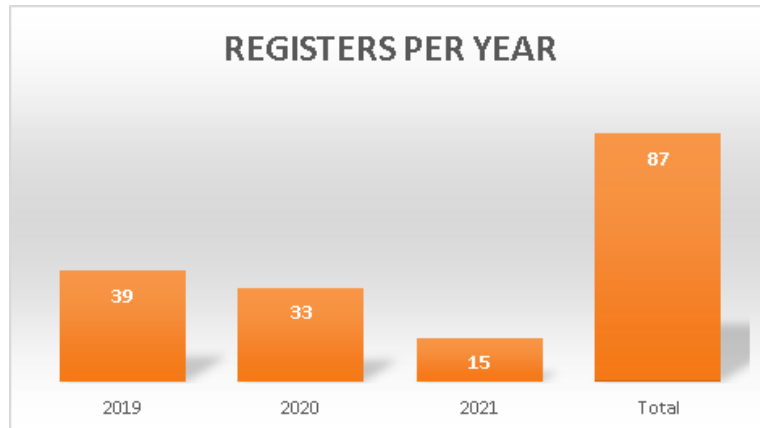


Figure 6: PC registered per year

Of the total of 90 PC, there are 61 active CCRR®, of which 55 are men and 6 are women.

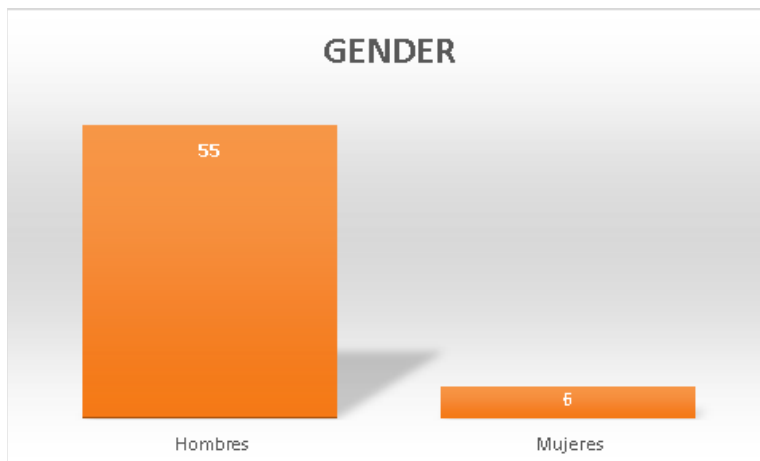


Figure 7: Gender: Men and Women

According to the profession, the following statistics are available:

Male Geologist: 24
 Female Geologist: 3
 Male Geological Engineer: 17 Female Geological Engineer: 2
 Male Mining Engineer: 5
 Male Mining and Metallurgy Engineer: 8 Female Mining and Metallurgy Engineer: 1
 Male Metallurgy Engineer: 1

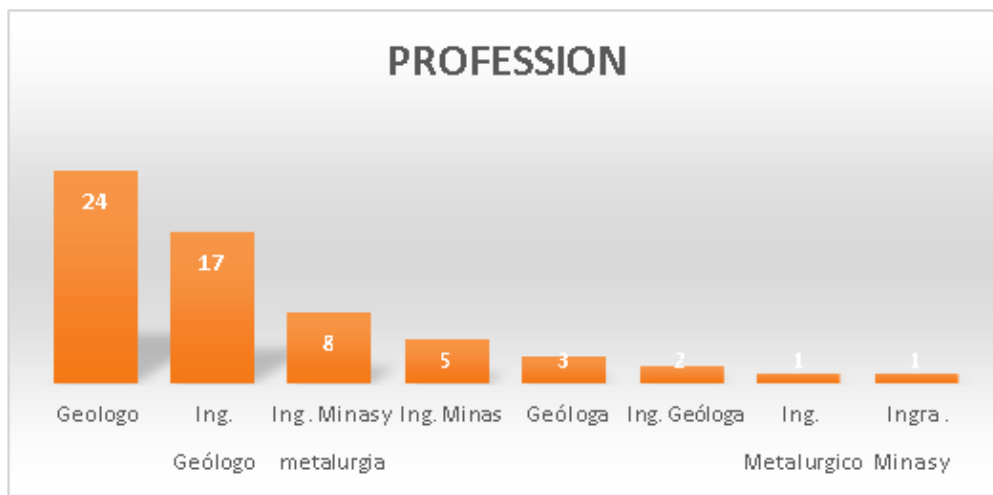


Figure 8: PC by gender and professions

6.4. Activities under development 2022

- The development of the Good Practice Guideline of Coal was initiated in conjunction with the National Mining Agency (ANM), this guide has the support of the Mining Engineer Holman León, who is part of the CCRR® Board of Directors.
- Update the Strategic Plan 2018-2023, a task on which we have been working during the last months.
- Updating the ECRR®: The Technical Committee leads this initiative, to date several technical reunions have already been held with the Mining Authority, the PC and the mining professionals in general. It is expected to compile the information in a draft document on September to complete the updating of the ECRR® by the end of this year 2022.

- With the aim of introducing students into the mining sector, it was agreed to dictate an ECRR® course to students and professors of the Faculty of Mines of the National University of Colombia. This course is dictated by active CCRR® PC ad honorem. The course began in August and will last until November 2022.
- It is planned to begin on October an ECRR® course for professionals in agreement with the AIMC and the National University of Colombia, to keep updated the Component Persons and professionals in the mining sector and obtain additional economic resources for the CCRR®. This will be the third cohort of the course, currently waiting for the approval by the National University of Colombia, it is expected to start on October or November 2022.
- The Academic Committee is working on an agreement with DATAMINE Chile, to dictate a course "estimation of resources and reserves for metallic deposits" to PC, professionals and students. Currently waiting for DATAMINE Chile to sign the agreement and the course is expected to start on October 2022.
- The acceptance of The Association of Geological Engineers- ANIG, as a new associate to the CCRR® is being analyzed., ANIG president sent the formal request to the CCRR® with the required documentation, this request is waiting for an assembly meeting to be reviewed and approved or rejected.
- The Academic Committee is working on the implementation of a volunteering with senior students and junior professionals, who will support the logistics of the courses and the management of social media, among others.

7. EUROPE – PERC

7.1. PERC Executive and Members 2022-2023

Following PERC's AGM which was held in May 2022, the incoming PERC Executive is as follows:

- Chairperson – Edmund Sides
- Deputy Chairperson – Andy Birtles
- Secretary – Antonio Maldonado
- Treasurer – vacant
- CRIRSCO representatives – Edmund Sides and Mark Burnett

Following the 2021 AGM, Paul Gordon had acted as Secretary for an interim period before this role was taken on by Antonio Maldonado. Ruth Allington stood down as Treasurer of PERC at the 2022 AGM and this position is currently vacant. Neil Wells also stood down at the AGM as one of PERC's representatives on CRIRSCO and has been replaced by Mark Burnett. The other officers remained unchanged.

The names of all of the PERC members are available on the [PERC website](#).

7.2. PERC Trustees – May 2022 onwards

Stephen Henley who had served as a Trustee since PERC was first legally registered in Belgium in March 2013 resigned in April 2022. Two new Trustees, Ruth Allington and Kerstin Brinnen were appointed at the 2022 AGM in order to ensure that PERC has the necessary number of Trustees as specified in the PERC Statutes (a minimum of three).

Following the appointment of two new Trustees at the AGM, PERC now has four trustees, namely:

- John Clifford
- Gordon Riddler
- Ruth Allington
- Kerstin Brinnen

The 2022 AGM noted a vote of thanks to Steve for his contributions to PERC, firstly as a Trustee and secondly for his contributions as a former member of the Executive, former Chairperson of the Standard Update sub-Committee and former webmaster of the PERC website (up until the end of 2021).

7.3. PERC 2022 AGM

PERC's 2022 AGM was held on 20 May 2022 as a hybrid online and in-person event. Three separate two hour Zoom sessions were held online. Several PERC members participated in person in Svemin's offices in Stockholm (see photo). Other participants joined the Zoom sessions remotely.



Figure 9: Participants attending the PERC 2022 AGM at Svemin's offices in Stockholm.

As reported to the AGM, one of the main highlights of the year was the release of the PERC Reporting Standard 2021 last October. This was followed by several promotional webinars as well as a successful online training course organized in conjunction with the Geological Society of London.

On the administrative side, the AGM approved several changes in the Trustees, Executive, and Members for the 2022-2023 period as indicated on the PERC website. During the year, PERC adopted a policy for managing applications by organizations wishing to join PERC and to be added to the PERC list of Recognized Professional Organizations (RPOs). Initial discussions have been held with two professional organizations that are interested in joining PERC.

The Chairperson's report, and reports from various participants provided an overview of PERC's activities during the year a summary of which is given below.

7.4. Chairperson's Report to the PERC 2022 AGM

Edmund Sides, the PERC Chairperson, provided a report to the AGM on PERC's activities for the year. The full report is available on the PERC website at: [Report on the PERC 2022 AGM](#)

A summary of the conclusions of his report is provided below.

Excellent progress has been made during the year on several fronts, including:

- The release of the PERC Reporting Standard 2021 and the development of supporting materials (e.g. webinars, videos, translations of the PERC Definitions and the PERC Summary Guide).
- The inclusion of guidance on ESG reporting in the PERC Reporting Standard 2021. This is likely to be taken into account by other CRIRSCO member NROs when they are reviewing and updating their Codes or Standards.
- The launching of a redesigned PERC website on a new server. (www.percstandard.org)
- Establishment of a communications sub-committee; development of a Communications Strategy; and the initiation of communications via social media.
- The Implementation of NextCloud for document sharing, collaborative editing and archiving.
- Running of a very successful online training course in co-operation with the GSL.
- Contribution to CRIRSCO activities.

7.5. Training & Promotional Activities (June.2021-Sep.2022)

A summary of the main training and promotional activities carried out by PERC during the period is provided below.

- 01-Oct-21 – Webinar: launch of the PERC Reporting Standard 2021
- 10-Nov-21 – Webinar: Introduction to the PERC Reporting Standard 2021
- 08-Dec-21 – Webinar: Introduction to the PERC Reporting Standard 2021

- 27-Jan-22 – FAMMP Webinar: Introduction to the PERC Reporting Standard 2021
- 03-Feb-22 to 17-Mar-22: PERC-GSL online training course on the topic of “An introduction to the CRIRSCO family of reporting codes – with special reference to the PERC Reporting Standard 2021” consisting of seven 1.5-hour sessions spread over 7 weeks. This was a very successful course with around 90 registrants, the majority of whom attended all of the sessions. Details of the course content are available here: <https://percstandard.org/427-2/>.
- 19-May-22 – Presentation by Fiona Cessford to FAMMP (in person in Stockholm) – Title: “Clarification of ESG Standards and their application in the early phases of project”.
- 03-Aug-22 – Presentation (in Spanish) by Antonio Maldonado to a webinar organized by the Comisión Minera, Chile. Title: Incorporación de los aspectos ESG en el Estándar PERC de octubre 2021 (Incorporation of ESG aspects in PERC 2021 reporting standard)
- 15-16 Sep-22 – PERC-BDG in person course held at Meggen, Germany as part of the Meggen Raw Material Days. In person presentations from Ed Sides and Marco Cosi, remote contributions (via GoTo Meeting) from five other presenters. Course title: The PERC Reporting Standard 2021 with special emphasis on industrial minerals, construction raw materials and dimension stones (c. 30 participants)

In addition to the courses and webinars noted above, several individual PERC members also gave presentations on topics related to minerals reporting.

7.6. PERC Member Organisations - Complaints and confirmation requests

A summary of the number of complaints and confirmation requests received by PERC’s member professional organizations during the period May 2021 to May 2022 is given in the table below, based on information reported to the 2022 PERC AGM. An estimate of the number of professional members of these organizations who may be involved in Minerals Reporting is also provided, however this is quite speculative for the organizations with larger memberships as in general their members are not required to state whether they are actively in Minerals Reporting.

Table 2: PERC Member organizations - Complaints and confirmation request.

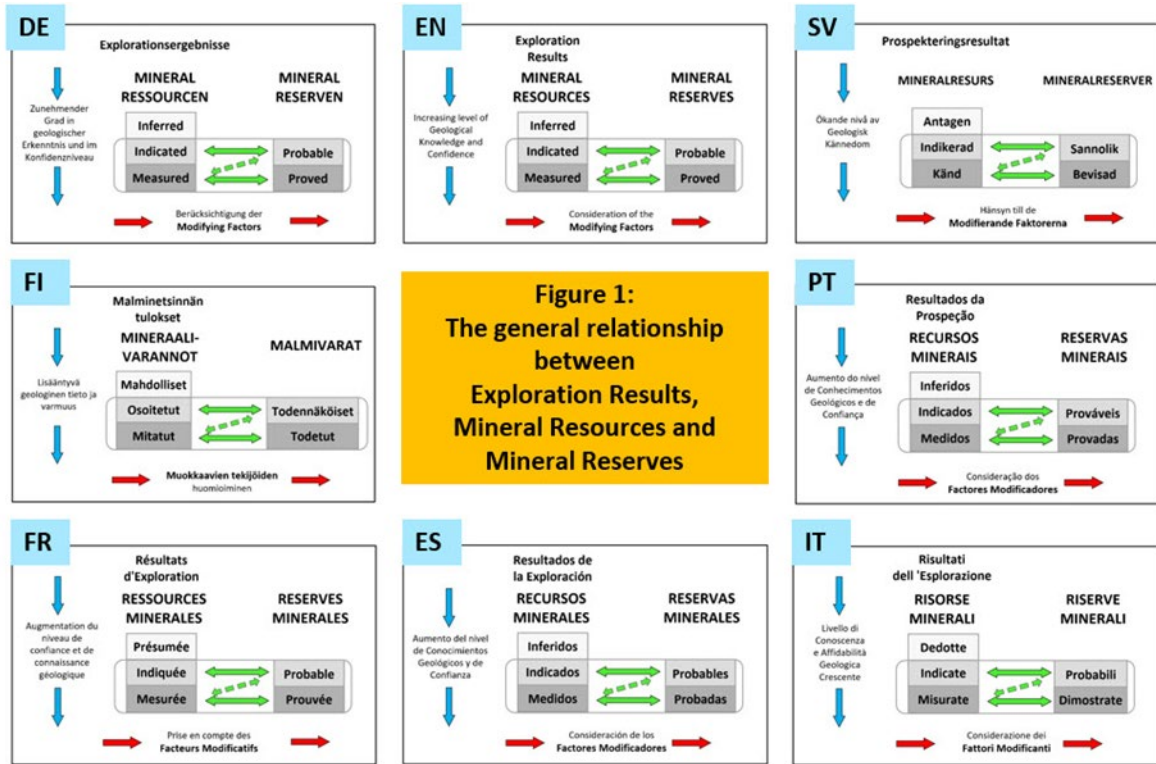
Organization	Complaints / disciplinary actions	Confirmation Requests (for CP/QP status)
EFG	None related to minerals reporting	1
FAMMP	None	None
GSL	One (Not related to Minerals Reporting)	
IGI	None	3? (Not logged)
IMEB	None	None
IOM3	3 (none were substantiated)	c. 50 (no issues noted)

7.7. Translations of the PERC Standard Definitions (including figure 1)

In June 2022, PERC published translations of the PERC 2021 Standard Definitions into seven different European languages. These definitions are largely identical to the CRIRSCO Standard Definitions with no material differences.

The translations were prepared using a standard approach which involved initial translation using automatic translation software (DeepL from <https://www.deepl.com/translator>). The translated text was then reviewed and edited by native speakers of the language who are familiar with the minerals sector.

The translated versions of figure 1 are illustrated in the image provided below.



www.percstandard.org

Figure 10: Figure 1 - The general relationship between Exploration results, Mineral resources and Mineral reserves.

The translated text and Figure 1 for each language are now available to download from the PERC website at: <https://percstandard.org/perc-standard/#definitions>

8. INDIA – NACRI

8.1. Introduction

1. Professional Organization (PO): **Mining Engineers' Association of India 'MEAI'**
2. Reciprocity: **Between NACRI (India) and SME (USA)**
3. The number of applications in total, approved, rejected, partial (other)
 - Number of Applications approved for RCP: **25**
 - Number of Applications rejected for RCP: **0**
4. Complaints, number of complaints, how many are in progress, concluded with sanctions and concluded with no penalties
 - Complaints received: **NIL**
 - NACRI meetings held (virtual): **Three (3)**


(27-12-2021, 21-1-2022,5-3-2022)

5. Participation of NACRI Reps in the CRIRSCO committees' meetings (virtual): **100%**
6. Professional training initiatives taken up by the NRO: **ONE**
 - NACRI IMIC training held on April 18 – May 13, 2022. 28 professionals attended.


The NACRI Professional Development Program (PDP) Committee conducted an IMIC training program targeting the mineral industry professionals serving with the mining and consulting companies. It was a voluntary service extended by the course faculty. The committee held a 40-hour virtual training program, spread over 4-weeks on Saturdays and Sundays. It formulated the content of the training program that included IMIC (Indian Mineral Industry Code for reporting Mineral Resources and Reserves in India), mineral industry best practices and weekly evaluation.

The mining industry response to the IMIC training program was heartening. After the successful completion of the evaluation, based on the weekly tests, **22** participants out of **28** attended, were deemed to have completed the mandatory 40-hour training and eligible for consideration to register as Competent Persons (CP), subject to fulfilling all other requirements.

E-certificates were issued to the successful candidates. Details of the successful candidates were sent to MEAI (PO) and are being maintained by the NACRI for future reference. Procedure to register as CP was published in Mining Engineers' Journal (MEJ) for wider publicity and the same is presented below.



3RD TRAINING PROGRAM ON IMIC BY NACRI



Mining Engineers' Association of India (MEAI) rolled out the registration of Competent Person (RCP) under Indian Mineral Industry Code (IMIC). MEAI is a Professional Organisation (PO) in India, recognised by National Committee for Reporting Mineral Resources and Reserves in India (NACRI), with the obligation to offer professional development programs to its members, register CPs and oversee the ethical behaviour of RCPs. NACRI is the National Reporting Organisation (NRO) recognised by the Committee for Mineral Reserves International Reporting Standards (CRIRSCO).

The previous two training programs on IMIC were successfully held by NACRI in January 2021 and April 2021 with around 25 participants in each program, representing the mining companies, consulting companies and individuals. All the participants, barring a few, have successfully completed the training program.

Prerequisites for registration of CP
RCP has been defined under Clause #9 of IMIC 2019 as follows:

RCP is a mineral industry professional who is a member of a professional organisation headquartered in India and approved by NACRI or a member of a 'Recognised Professional Organisation' (RPO), as included in a list of similar bodies headquartered outside India available on the NACRI website. These organisations have enforceable disciplinary processes including the powers to suspend or expel a member. An RCP must have a minimum of ten years professional experience, which includes five years relevant experience in the style of mineralisation or type of deposit under consideration, and in the activity which that person is undertaking.

In addition to the above minimum professional experience required by PO members for registration as RCP the NACRI, vide Article 2.2.ii, further specifies that the potential RCP shall obtain at least 40 hours of professional development credits every year through participation in seminars, conferences, workshops, training programs or webinars, recognised by it.

Accordingly, those eligible mineral industry professionals in India interested in registering as Competent Person under IMIC should be a Life Member of MEAI, attained at least 10 years of professional experience and acquired 40 hours of professional development credits recognised by NACRI, at the time of making application to MEAI.

RCP certification shall be valid for a period of one year from the date of issue of the certificate and renewed annually thereafter. The annual CP registration fee has been fixed at Rs 5,000 (Rupees five thousand only + GST @18%) and payable to MEAI.

Professional Development Program on IMIC
The fee for this mandatory IMIC training program, to register as CP under IMIC, may be paid online. The fee chargeable for the 40-hour training program is Rs. 10,000 (Rupees ten thousand only) that includes applicable GST @18% and payable to:

Account Name: MEAI-National Core Committee Fund	Bank Name & Address: UCO Bank, Abid circle, Hyderabad
S/B Account No: 14410110037089	IFSC: UCBA0001441

NACRI has formulated a 40-hour IMIC online training program, which every prospective RCP must undergo before applying for RCP certificate. This IMIC training course includes basic knowledge sharing on all aspects of IMIC and mineral industry best practices; and general guidance to the prospective RCP. The programs contents include:

<ul style="list-style-type: none"> • Introduction to MEAI/ NACRI Charter/ IMIC/ Code of Ethics • Competence and Responsibility • Reporting of Exploration Results • Reporting of Mineral Reserves • Technical studies • Table 1 and QA/QC 	<ul style="list-style-type: none"> • Scope of IMIC • Reporting Terminology • Reporting of Mineral Resources • Reporting of Coal Exploration Results, Resources and Reserves • Other topics including CRIRSCO 2019 • Industry best practices
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Every RCP should attend an 8-hour mandatory refresher program on IMIC prior to making an application for renewal of RCP. The RCPs may acquire additional professional development credits by attending NACRI accredited seminars/ workshops/ conferences/ training programs/ webinars. The MEAI headquarters shall maintain the records of each trainee/ RCP and provide the same to the MEAI RCP Registration committee.

Professional development program schedule
The NACRI Core group shall conduct the 40-hour online IMIC training program in four weeks with the topics scheduled thrice a week, and each session not exceeding 9 hours at a stretch. The NACRI Core Group will be responsible for conducting the training program under the guidance of Mr T.R. Rajasekar and Dr A. Srikant. The 3rd IMIC training program will be held from 16th April to 13th May 2022.


Contact details
Interested mineral industry professionals may please contact the Secretary General, MEAI at mesai1957@gmail.com / Phone no. 040-66339625/ 040-23200510 or Dr PV Rao, Co-Chair NACRI at drpvrao@gmail.com for more details on this training program.

Dr PV Rao, Co-Chair NACRI


Figure 11: 3rd training program on IMIC by NACRI.

8.2. Registration of Competent Persons (RCP)

The RCP admissions committee, constituted by the PO, after necessary review approved **25** applications that met the educational and industry experience requirements and fulfilled the mandatory training criterion. The successful candidates were presented with the RCP certificates.



REGISTRATION OF COMPETENT PERSON UNDER IMIC



Mining Engineers' Association of India (MEAI) proposes to rollout the registration of Competent Person (RCP) under Indian Mineral Industry Code (IMIC). MEAI is a Professional Organisation (PO) in India, recognised by National Committee for Reporting Mineral Resources and Reserves in India (NACRI), with the obligation to offer professional development programs to its members, register competent persons and oversee the ethical behaviour of RCPs. NACRI is the National Reporting Organisation (NRO) recognised by Committee for Mineral Reserves International Reporting Standards (CRIRSCO).

MEAI-National Core Committee Fund: UCO Bank, Abid circle, Hyderabad; A/C no. 14410110037089; IFSC: UCBA0001441

NACRI has formulated a 32-hour IMIC online training program, which every RCP must undergo before applying for RCP certificate. This IMIC training program includes basic knowledge sharing on all aspects of IMIC, including guidance to the prospective RCP. Another 8-hour online training program on mineral industry best practices will be organised by NACRI. The programs contents include:

- Introduction to MEAI/ NACRI Charter/ IMIC/ Code of Ethics
- Scope of IMIC
- Competence and Responsibility
- Reporting Terminology
- Reporting of Exploration Results
- Reporting of Mineral Resources
- Reporting of Mineral Reserves
- Reporting of Coal Exploration Results, Resources and Reserves
- Technical studies
- Other topics including CRIRSCO 2019
- Table 1 and QA/QC
- Industry best practices

RCP should undergo 8-hour mandatory refresher program on IMIC every year prior to applying for renewal of RCP. The RCPs may acquire additional professional development hours by attending NACRI accredited seminars/ workshops/ conferences/ training programs/ webinars. The MEAI headquarters will maintain the records of each trainee/ RCP and provide the same to the MEAI RCP Registration committee.

Prerequisites for registration of CP
RCP has been defined under Clause #9 of IMIC, as follows:
RCP is a mineral industry professional who is a member of a professional organisation headquartered in India and approved by NACRI or a member of a 'Recognised Professional Organisation' (RPO), as included in a list of similar bodies headquartered outside India available on the NACRI website. These organisations have enforceable disciplinary processes including the powers to suspend or expel a member. An RCP must have a minimum of ten years professional experience, which includes five years relevant experience in the style of mineralisation or type of deposit under consideration, and in the activity which that person is undertaking.

In addition to the above minimum professional experience required by PO members for registration as RCP, the NACRI, vide Article 2.2.11, further specifies that the potential RCP shall obtain at least 40 hours of professional development credits every year through participation in seminars, conferences, workshops, training programs or webinars, recognised by it.

Accordingly, those eligible mineral industry professionals in India interested in registering as Competent Person under IMIC should be a Life Member of MEAI, attained at least 10 years of professional experience and acquired 40 hours of professional development credits recognised by NACRI, at the time of making application to MEAI.

RCP certification shall be valid for one year from the date of issue of the certificate and renewed yearly thereafter. The annual CP registration fee has been fixed at Rs 5,000 (Rupees five thousand only) and payable to MEAI.

Professional Development Program on IMIC
The Professional Development Program on IMIC is a paid online mandatory training program. The fee chargeable for the 40-hour training program is Rs. 5,000 (Rupees five thousand only) and payable to:

Contact details
Interested members may please contact the Secretary General, MEAI at meal1957@gmail.com / Phone no. 040-66336625/ 040-23200510 or Dr PV Rao, Co-Chair NACRI at drpvrao@gmail.com for any further details on this subject matter.

Dr PV Rao
Co-Chair NACRI

Figure 12: Registration of competent person under IMIC, NACRI.

9. INDONESIA – KCMI

This report summarizes the various Komite Cadangan Mineral Indonesia (KCMI) activities during October 2021 – September 2022 period.

9.1. Kombers KCMI Committee Meeting

A series of meetings were held on 07 December 2021, 17 Maret 2022, and 23 June 2022. Kombers KCMI has scheduled to have at least four meetings or quarterly meetings every year for all members.

9.2. Guidelines to KCMI Code 2017

Two draft guidelines have been finalized: Guidelines for Nickel Laterite and for Coal. They are scheduled to be published by next CPI (Competent Person Indonesia) Forum in March 2023.

9.3. Registered Competent Person

The acceptance of the KCMI registered competent person is conducted through a verification process that involves presentation from the applicants and verification to applicant's portfolio. Between October 2021 and September 2022 the KCMI verified 57 professionals to its Competent Person register/Competent Person Indonesia (CPI) where thirty are for CPI PERHAPI and twenty-seven for CPI IAGI. During this period, the verifications were conducted hybrid and online due to Covid concern. As per September 2020, total KCMI registered competent person are 427 persons.

Table 3: Registered competent person KCMI.

Date	Subject
27 October 2021	Verification CPI IAGI (13 registered, 0 passed)
13-14, 19, 20-21 November 2021	Verification CPI PERHAPI (34 registered, 8 passed)
21 December 2021	Verification CPI IAGI for Coal Commodities (11 registered, 1 passed)
19 February 2022	Verification CPI PERHAPI (18 registered, 4 passed)
24 February 2022	Verification CPI IAGI (21 registered, 10 passed)
26-27 March 2022	Verification CPI PERHAPI (9 registered, 2 passed)
28 March 2022	Verification CPI IAGI for Tin Commodities (3 registered, 1 passed)

28-29 May 2022	Verification CPI PERHAPI (39 registered, 9 passed)
19 May 2022	Verification CPI IAGI (12 registered, 5 passed)
31 July 2022	Verification CPI PERHAPI (20 registered, 5 passed)
25 August 2022	Verification CPI IAGI (14 registered, 12 passed)

9.4. Workshop, Training and Course

Workshops, courses, and training are organized to improve the understanding in reporting under the KCMC Code and to improve the knowledges and skills of existing registered competent person. The following events have been held or planned:

Table 4: Events planned by KCMC.

Date	Subject
8 December 2021	CPI Development Program (CDP): Coal Washability
14-18 February 2022 1-27 March 2022	Conducted workshop about the resources and reserve estimation for tin commodity and then continued with coaching.
7-8 March 2022	Conducted training for evaluating resource and reserve reports to the valuers from the Ministry of Mining and Energy Republic of Indonesia
11 March 2022	Conducted refreshing for the process of tin resources and reserve estimation for Non-Tin Minerals CPI
14-18 March 2022	Conducted workshop about the resource and reserve estimation for tin to the Geological Agency, Republic of Indonesia
14 April 2022	CPI Development Program (CDP): All About Geophysical Logging
30 June 2022	CPI Development Program (CDP): From Exploration to Resource Estimation: The Best Practice for Lithium Commodity
18-22 July 2022	Conducted workshop about the resources and reserve estimation for nickel commodity and then continued with coaching
28 July 2022	CPI Development Program (CDP): Key Trends in ESG for the Indonesian Mining Industry

9.5. Report of Suspect of Code Breach Case by CPI

During the periods, there have been nine potential code breach cases reported. These cases are not related to public resource and reserve reports but to the resource and reserve report to the government. As demanded by the government, all mining license holders must have their annual resource and reserve reports signed by CPI. There are about 9,000 mining licenses and 427 CPI. Due to these imbalanced numbers, the indicted CPIs sign too many reports and do not use “carefulness” when developing the reports. Currently, they are being investigated by the Ad-Hoc Committee. While the breach is being investigated, the CPIs licenses have been suspended.

9.6. Meeting with Stakeholders

To socialize and promote the implementation of the KCMC Code, KCMC has been actively meeting with its stakeholders. The following meetings have been held during October 2021 – September 2022:

Table 5: KCMC meeting with stakeholders.

Date	Subject
6 October 2021	Forum CPI 2021 “Mineral Resources and Reserves for Sustainable Development”
19 January 2022	Meeting with Directorate General of Coal and Mineral Republic of Indonesia related to the peer-reviewing process for nickel and bauxite reporting
20 January 2022	Introduction of new Kombers KCMC officers to Director Mineral and Coal Republic of Indonesia and Discussed the CPI contribution
17 February 2022	The signing of a cooperation agreement between Kombers KCMC with PPSDM Geominerba, a Ministry Agency focusing on providing training and workshop
26 April 2022	Socialization of the KCMC Code and dan CPI system to Manganese Mineral Industry in Nusa Tenggara Timur
15 July 2022	Forum Group Discussion about geophysics implementation in manganese resource estimation
18 August 2022	Meeting with Directorate General of Coal and Mineral related to the evaluation coal resource and reserve

9.7. Other Recent KCMC Activities

Other KCMI Activities between October 2021 – September 2022 is listed in the table below:

Table 6: Other recent KCMI activities

Date	Subject
2 February 2022	Issuing circular letter Number 7 of 2022, about “Gap Analysis Estimation resource and reserve tin commodity”
29 June 2022	The signing of a cooperation agreement on Human Resources Improvement between Kadin, Perhapi, and IAGI, especially related to Competent Person Indonesia

10. KAZAKHSTAN – KARZRC

10.1. The process of implementing the KAZRC Code from 2015 to the present days

2015 - Adoption of the **National Plan of 100 steps**. 74th step - implementation of CRIRSCO standards

- Foundation of the KAZRC Association
- Foundation of PONEN **as the Institute of Competent Persons**
- Development of the KAZRC Code

2016 – Joining the KAZRC Association as a member of CRIRSCO

- Start of admission to PONEN membership, and self-certification of Competent Persons

2018 - Entry into force of the Code "On Subsoil and Subsoil Use", start of implementation of the KAZRC Code

2019 - Start of submission of KAZRC reports to the Geology Committee

10.2. Members of the KAZRC Association

1. "National Geological Exploration Company "Kazgeology" JSC
2. Association of Legal Entities "Republican Association of Mining and Metallurgical Enterprises"
3. Association of legal entities "Association of production geological organizations of the Republic of Kazakhstan"
4. Public Association "Professional Association of Independent Subsoil Experts"
5. MICROMINE Central Asia LLP
6. PetroKazakhstan Kumkol Resources JSC
7. Kazzinc LLP
8. Kazakhmys Corporation LLP

10.3. PONEN

PONEN operates on the basis of the Charter, Membership Regulations and Code of Ethics

Today, the number of PONEN members is 300 people, including by category:

FPONEN - full member of PONEN (experience over 20 years) - 106 people.

MPONEN - member of PONEN (experience from 10 to 20 years) - 151 people.

APONEN - associated member of PONEN (experience up to 10 years) - 38 people.

SPONEN - student member of PONEN (students of specialized universities) - 5 people.

Number of Competent Persons - 102 people.

Continuity should be noted - most of the Competent Persons are also GKZ experts or were such before.

10.3.1. Competent Persons of PONEN

REQUIREMENTS of the KAZRC Code

A Competent Person is a minerals industry professional, who is a member of a recognized Professional Organization with enforceable disciplinary processes including the powers to suspend or expel a member. A Competent Person must have a minimum of five years relevant experience in the style of mineralization or type of deposit under consideration and in the activity which that person is undertaking.

10.3.2. Independence of the Competent Person

REQUIREMENTS of the PONEN Code of Ethics

Independence of the CP of the Competent Person

- A PONEN member must refuse to provide professional services for an independent audit of a report if there are reasonable doubts about its independence from the contracting authority

and its officials in all respects. In an opinion or other document drawn up as a result of the rendered professional services, the Member is obliged to consciously and unconditionally declare its independence in relation to the customer.

- A member should avoid relationships with persons that could affect the objectivity of his judgments and conclusions, or immediately terminate them, pointing out the inadmissibility of pressure in any form.

10.4. KAZRC in the Code on Subsoil and Subsoil Use

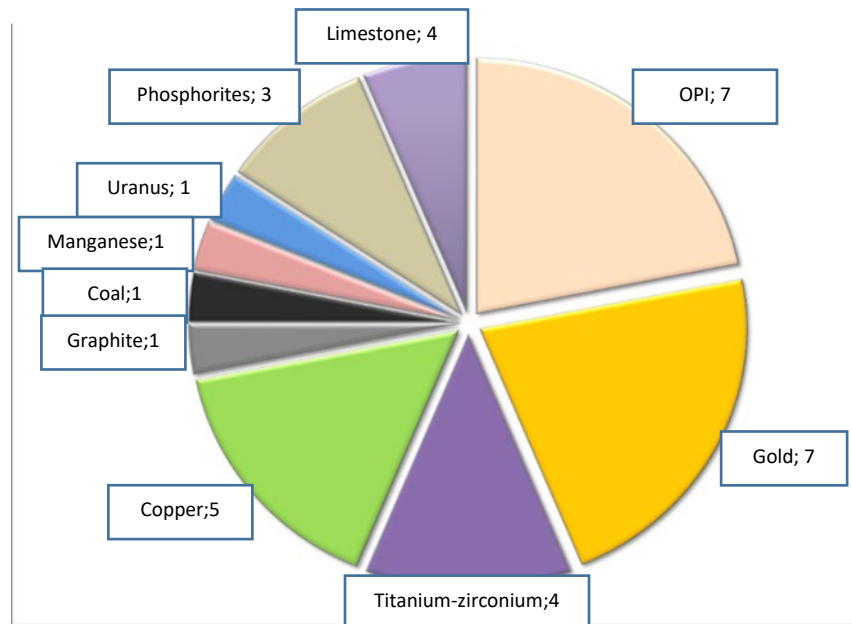
- Article 204. Application for a license for the extraction of solid minerals.
- p7. The report on the assessment of resources and reserves of solid minerals, provided for in this article, must be prepared by a competent person in accordance with the Kazakhstan Code of Public Reporting on Exploration Results, Mineral Resources and Mineral Reserves (KAZRC Code).
- Article 194
- p8. For the purposes of this Code, a competent person is an individual who is a member of a professional organization provided for by the Kazakhstan Code of Public Reporting on Exploration Results, Mineral Resources and Mineral Reserves (KAZRC Code), in accordance with its rules.
- KAZRC is also present in Art. 180 - Uranium mining (clause 2) and Art. 278 - Transitional provisions, clause 10.

10.5. Introduction of reading of KAZRC reports

- As of August 31, 2022, a total of 68 reports on KAZRC were submitted to the Geology Committee.
- During 2019-2021 (November), out of 38 reports received by the Geology Committee, only five reports were checked at the request of the GKZ Department of the Geology Committee, two of which were found to be completely inconsistent with the KAZRC Code.
- In November 2021, the PONEN Executive Committee (Minutes No. 4 dated November 13, 2021), in agreement with the Committee of Geology, decided that it was necessary to check all reports submitted for consideration by the CG.
- Compliance of the reports with the KAZRC Code was considered at the last 4 meetings of the PONEN Executive Committee (Minutes No. 5 dated 05/21/2022, Minutes No. 6 dated 07/02/2022, Minutes No. 7 dated 07/16/2022, Minutes No. 8 dated 08/15/2022).

10.6. Results of reading of KAZRC reports

Number of viewed Reports by type of IP (13 readers, period January-August 2022)



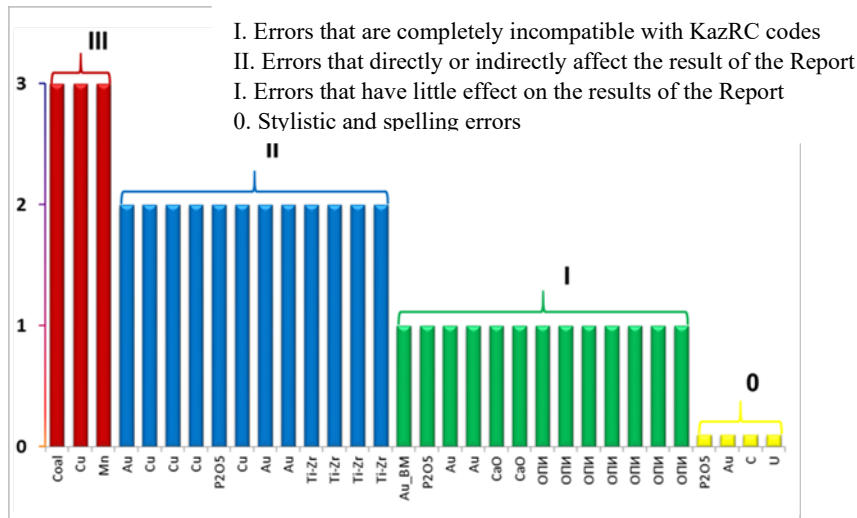


Figure 13: Results of reading of KAZRC reports.

Table 7: Results of reading of KAZRC reports

PI	Number of reports	KL	Theme of Report
OPI	7	2	Min resources and mine reserves
Gold	7	5	Min resources
Titanium-zirconium	4	2	Min resources and mine reserves
Copper	5	2	Min resources and mine reserves
Graphite	1	1	Min resources
Coal	1	1	Min resources
Manganese	1	1	Min resources
Uranus	1	1	Min resources and mine reserves

Phosphorites	3	1	Min resources and mine reserves
Limestones	2	1	Min resources and mine reserves
9	32	17	

Reading result, August 2022

out of 32 reports viewed:

- 4 fully comply with KazRC codes (12%)
- 13 contain errors that have little effect on the result (40%)
- 12 contain errors that significantly affect the result (37%)
- 3 contain errors that are not compatible with KazRC and EC codes (10%)

III. Errors completely incompatible with KAZRC codes

- Withholding control drilling results
- Substitution of well testing data
- Use of a technical report for another field
- Valuation of Reserves in the absence of technical studies
- Deliberate departure from the criteria/principles of classification.

Result: a quantitative assessment is made of what is not yet there.

II. Errors that directly or indirectly affect the result of the Report

- Weak geological justification for mineralization control
- No study of the boundaries of the oxidation zone
- Confusion in basic terms and inclusion of unusual sections in the report
- Poor quality control of contemporary and especially historical works
- Insufficient study of associated metals
-

I. Errors that have little effect on the results of the Report

- The abundance in the reports of insignificant, ambiguous information.
- The competence of the CL is not indicated, in relation to a specific project
- Many other shortcomings

•
Errors and Errors of groups I and II lead to violation of the principles of Transparency, Significance, Competence.

As a result, quantification and classification can be distorted.

0. Stylistic and spelling errors - do not affect the result.

Some companies prescribed requirements in the terms of reference for contracts for the assessment of mineral resources and reserves, that are not compatible with the KAZRC code.

10.7. Disciplinary action

By the decision of the PONEN EC dated July 2, 2022, two Competent Persons (FPONEN) were issued disciplinary sanctions in the form of a Warning due to significant violations of the KAZRC Code and the PONEN Code of Ethics committed during the preparation of reports.

According to one of them, a decision was subsequently made "For violations of the KAZRC Code, the Charter, as well as the Code of Ethics of PONEN, taking into account the previously imposed penalty in the form of a Warning, to exclude from PONEN members."

10.8. Legal aspects of the introduction of reading

The legal registration of the reading of reports will be carried out by making the necessary changes to the Charter of PONEN.

10.9. PONEN Standards Commission

The Standards Commission has done a lot of work on the development of the "Guidelines for the preparation of KAZRC reports", which are currently undergoing the verification procedure by the members of the Executive Committee.

The draft document "Methodological recommendations ..." was sent to all members of PONEN, as well as subsoil user companies for suggestions and comments, which were taken into account in the latest version of this document.

Taking into account the fact that Kazakhstani specialists used to be guided by the GKZ methodological documents in the past, the submission of such a document will help them quickly adapt to the requirements of the best world practice and improve the quality of exploration work and prepared reports.

10.10. KAZRC Reporting Guidelines

KAZRC Association acted as the customer of this work, PONEN became the developer.

Methodological guidance for the preparation of reports on the results of geological exploration, Mineral Resources and Mineral Reserves in accordance with the KAZRC Code consists of 2 books.

Book 1 presents Methodological Guidelines for the preparation of Reports on Exploration Results, Mineral Resources and Mineral Reserves in accordance with the KAZRC Code and contains recommendations on the content and format of reports in accordance with the KAZRC Code. The final content and structure of the report is determined by the Competent Person for the most complete reflection of the results. executed works. In doing so, the Competent Person must comply with the norms and provisions of the KAZRC Code and the PONEN Code of Ethics.

Book 2 contains recommendations on the Exploration Methodology and includes 12 appendices

The Methodological Guide excludes the PONEN recommendation in the "Procedure for accounting for KAZRC reports ..." of 2019 on the approval of KAZRC reports subsoil user (by analogy with the GKZ reports), because.

This has been erroneous in direct conflict with the Competent Person's independence principle.

10.11. Education

The PONEN Training Commission held 8 offline and online seminars for industry specialists, teachers, undergraduates, doctoral students and students on the implementation of the KAZRC Code, staging of geological exploration, quality control of geological exploration and technical studies of mining projects.

More than 120 people have been trained.

6 members of PONEN acted as speakers of the seminars.

Commission on raising qualifications

- By the Commission for Professional Development, the assessment of the degree of professional development of PONEN members was carried out on the basis of the current professional development manual.
- Each PONEN member signs a declaration in the annual report on advanced training that the information and documents on advanced training provided by them is a true and correct reflection of their activities for the reporting period.
- Each PONEN member independently fills out a professional development assessment form (report). In accordance with the Regulations on advanced training, reports must be submitted for verification by the Commission before January 15 of each year.

Commission for work with specialized educational institutions

The commission for work with specialized educational institutions worked with the faculty of the department "Geological survey, prospecting and exploration of mineral resources", undergraduates, doctoral students and students of the specialty "Geology and exploration of mineral deposits" of KazNITU named after K. Satpayev on the activities of PONEN, explanation of the main regulations and responsibilities.

Members of the commission took part in the development of the Memorandum between educational institutions and the Committee of Geology of the Ministry of Ecology, Geology and Natural Resources of the Republic of Kazakhstan, as well as in the development of the Action Plan for the implementation of the memorandum of mutual cooperation (Roadmap) of NAO" KazNRTU named after K.I. Satpayev" and RGU "Committee of Geology of the Ministry of Ecology, Geology and Natural Resources of the Republic of Kazakhstan" for 2022-2026.

The main issues that are reflected in the roadmap are: industrial practices, scientific internships, dual training, opening a branch of the department, the possibility of participation of academic and research institutes in state programs for the geological study of subsoil, conducting advanced training courses for both university teaching staff and for company employees. The issues of joint holding of conferences, round tables and seminars were also included.

At the moment, a document is being prepared on the creation and organization of the Industrial Advisory Council of the university and representatives of geological enterprises, which will consider the training of geologists and the content of educational programs, the organization of work practices in universities and the employment of graduates, the joint participation of enterprises and universities in research programs.

Members of the executive committee of PONEN and ordinary members of PONEN assist in the organization of work experience for senior courses in geological specialties (geophysicists, geologists, hydrogeologists), as well as employment.

Commission for work with specialized scientific organizations

The commission for work with specialized scientific organizations distributed a MEMORANDUM of understanding and cooperation between the NGO PONEN and scientific organizations. Explanatory work was carried out among employees of scientific organizations on joining PONEN, as well as on participation in seminars held at the KazNTU site.

Commission for Interaction with State Bodies of the PONEN Executive Committee

Interaction to discuss pressing issues with the following organizations and structures:

Committee of the Geological Industry, Mining, Coal Mining and Metallurgical Industry of the National Chamber of Entrepreneurs NCE "Atameken".

Committee of Geology of the Ministry of Ecology, Geology and Natural Resources of the Republic of Kazakhstan.

Intergovernmental Council for the Exploration, Use and Protection of the Subsoil of the Commonwealth of Independent States (CIS).

Technical Universities of Kazakhstan, Geological Prospecting College, Corporate Fund " Zhas Geologist".

Submission of proposals to improve the current legislation in the field of subsoil use to state bodies.

KAZRC Association is accredited by relevant state bodies and NCE Atameken, which makes it possible to participate in the development of proposals for improving industry legislation and the regulatory framework.

During the reporting period:

- Participation in 4 meetings of the Committee and subcommittee of the geological industry of the Presidium of the Presidium of the NCE RK "Atameken".
- 17 legal acts were considered aimed at regulating responsibility in the field of exploration and development of solid minerals.
- Participation in the work of the Expert Council under the Ministry of Ecology, Geology and Natural Resources.
- Participation in the work of the Expert Council under the Ministry for Investments and Infrastructure Development.
- Extended accreditation in MEGPR and MIIR.
- Received accreditation in the Ministry of Energy of the Republic of Kazakhstan.

Change in the principle of taxation of subsoil users - transition from the mineral extraction tax (MET) to Royalties.

KAZRC Association and PONEN have participated in numerous meetings on this issue.

The main problem is that the State Revenue Committee of the Ministry of Finance (SRC) sees an inevitable decrease in the amount of tax collection due to the fact that KAZRC mineral reserves are not estimated for non-recoverable associated components.

To date, the position of the State Revenue Committee remains the same - to preserve the MET in order to continue levying taxes on associated minerals put on the state balance sheet dozens of years ago.

Formation of a corps of independent Competent Persons in accordance with the best world practice

Joint meeting of PONEN, KAZRC Association, AGMP, APGO, KomGeo to prevent violations by subsoil users (customers) and CL when preparing KAZRC reports (13.09.2022)

The following joint actions are planned:

- a) Organization of testing of PONEN members during their self-certification for the status of a Competent Person.
- b) Conducting seminars for the heads of subsoil user companies and their responsible technical personnel on the essence of the KAZRC Code and the PONEN Code of Ethics. Explanation of the fundamental differences between the GKZ standard and the KAZRC Code.
- c) The use of templates by subsoil users for compiling Terms of Reference for the types of KAZRC reports in the Methodological Guide.

Joint consideration of identified cases of the practice of “contractual” reports, creation of a mechanism to counter such cases.

11. MONGOLIA – MPIGM

Not available

12. RUSSIA – OERN

A Russian National Reporting Organization is called the Russian Society of Subsoil Use Experts (in short it is called OERN).

It is a non-profit organization that is an association of highly professional specialists (mining engineers, geologists, mining economists and other specialists related to subsoil use).

OERN has a Charter, a Code of professional ethics and disciplinary procedures.

OERN has its territorial branches in 14 different regions of Russia: Kemerovo, Krasnoyarsk, Perm, Irkutsk, Samara, Rostov-on-Don, Chita, Yakutsk, Magadan, Anadyr (Chukotka), Khabarovsk, Vladivostok, in St. Petersburg and Moscow. OERN has 1 387 members including 693 members in the field of solid minerals. 25 OERN members were accredited as CP's as well.

In 2022, the process of updating the status of CP, the validity of certificates of which ended in June 2022, was started. The composition of the qualification commission has been updated. It included representatives of the National Association for Subsoil Use Auditing (NAEN).

In 2021, following the recommendations of CRIRSCO, OERN received the status of a legal entity.

12.1. OERN recognition as RPO by NROs

Today OERN is recognized by:

Commission Minera – there is the reciprocal agreement.

Pan-European Reserves and Resources Reporting Committee (PERC) - included OERN in the list of Recognized Professional Organizations in the PERC REPORTING STANDARD 2013.

The South African Committee SAMREC/SAMVAL recognized OERN.

The SME has granted the experts of the OERN status as Competent Persons.

JORC committee included OERN in the list of Recognized Professional Organizations.

Canada (CSA) included OERN in the List of Foreign Associations and Membership Designations (Appendix A "Acceptable Foreign Associations and Membership Designations").

OERN and PONEN RK exchanged by letters of mutual recognition.

The OERN continues to maintain working contacts with an independent professional expert organization in the field of subsoil use of the Kyrgyz Republic (KOEN) on the promotion of international standards, exchange of experience and assistance in the accession of the Kyrgyz Republic to CRIRSCO. Members of the OERN participated in the revision of documents (the National Code of Kyrgyzstan and others) submitted to CRIRSCO in 2022.

As a CRIRSCO's representatives Bat-Erdene Dash (MPIGM) and Igor Svintitsky (OERN), visited Bishkek, Kyrgyz Republic 2-8 April 2022 for reviewing the progress of the implementation CRIRSCO template in the form of the National KyrRC Standard for the publication of reporting on the results of geological exploration, resource estimation and reserve calculation of minerals.

During the visit CRIRSCO's representatives have had meetings with the Chairman of the Cabinet of Ministers of the Kyrgyz Republic Akyzbek Japarov, the Director of the Department of Geology and Subsoil Use under the Ministry of Natural Resources, Ecology and Technical Supervision Arkady Rogalsky, the President of the Kyrgyz Society of Subsoil Experts I.Chunuev, the state officials, leaders of the mining and geological industry of the country.



Figure 14: From right to left. Chairman of the Cabinet of Ministers of the Kyrgyz Republic Akyzbek Japarov, President of the Kyrgyz Society of Subsoil Experts I.Chunuev, CRIRSCO working group coordinator Bat-Erdene Dash. 06.Apr. 2022.

The CRIRSCO reps note the highest level of the official support, the presence of the necessary package of documents, which in the form and the content correspond to the spirit and requirements of CRIRSCO and the readiness of the Kyrgyz Republic to implement international standards in the form of the National KyrRC Standard.

In 2021. OERN signed an agreement on cooperation and mutual recognition of experts with ECOEN (Eurasian Union of Experts on Subsoil Use, a professional organization created to ensure an objective state examination of mineral reserves primarily oil and gas).

In 2022. OERN has signed an agreement on cooperation and interaction with National Association for Subsoil Use Auditing (NAEN), whose members are large mining companies in Russia.



Figure 15: From left to right. Igor Svintitsky(OERN), CRIRSCO working group coordinator Bat-Erdene Dash, President of the Kyrgyz Society of Subsoil Experts I.Chunuev, Chairman of the Cabinet of Ministers of the Kyrgyz Republic Akylbek Japarov.

12.2. NAEN Code recognition

NAEN Code was approved in 2011.

The NAEN Code was recognized European Securities and Markets Authority (ESMA). The Code was included in the list of acceptable internationally recognized mineral standards.

The NAEN Code was accepted by the Canadian Securities Commission for reporting under NI 43-101, subject to the restrictions and provisions of Part 7 of NI 43-101 that apply to all foreign codes. And also, CSA included NAEN Code in the list of acceptable foreign codes.

12.3. Next NAEN Code update

NAEN Code has been revised since it was developed and approved in 2011. The date of the last version is 2013.

This version was updated. OERN is continued its work on an update of the NAEN code according to the CRIRSCO Template 2019. The working version of the updated code is currently undergoing expert discussion in the OERN. We plan to submit a new version of the code to CRIRSCO members for approval in 2023.

12.4. Seminars, conferences and other activities

OERN members have participated in conferences with presentations about international classification standards, CRIRSCO Template and National reporting systems.

OERN were provide in 2022 Annual international mining and geological forum “MINGEO Siberia 2022” - “mining and geology” in the Krasnoyarsk city (Central Siberia) <https://2022.mingeoforum.ru/>

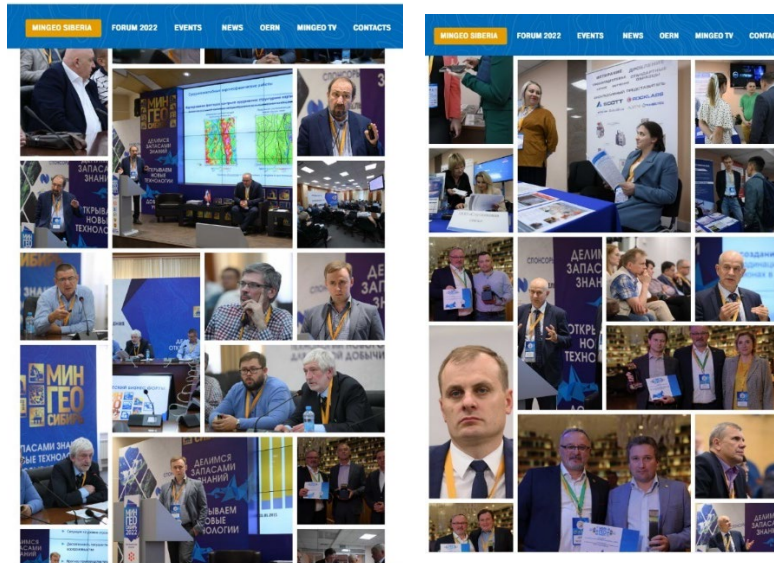


Figure 16: MINGEO Forum Siberia 2022. (<https://mingeoforum.ru/mingeo-sibir/arkhiv-foruma/fotogalereya/2022>)

And one more wide mining and geological event - “MINGEO Eurasia” in the Issyk Kul Lake, Republic of Kyrgyzstan. <https://mingeo-eurasia.com/>.



Figure 17: MINGEO Eurasia

Within the framework of the forum, issues of practical use of international reporting standards on mineral resources and reserves, Kyrgyzstan's accession to CRIRSCO were discussed.

OERN continues to conduct seminars on the implementation of best practices in geostatistics.

OЭPH one of the program developer and main organizer Geoweinar's Platform of knowledge: geoweinar.com. A new format of seminars is the regular, two time per week - Tuesday and Friday, holding of geo-webinars on a wide range of topics of geology, subsoil use, mining, metallurgy, ecology and geoscientists.

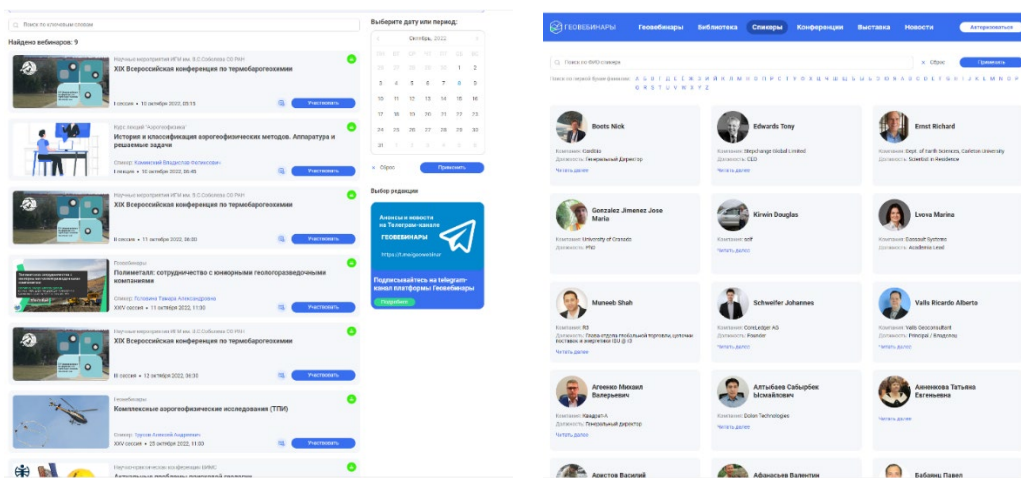


Figure 18: Geoweinar's Platform

Achievements - 2020 – 2022. 12 Conferences, 50+ Countries, 347 Companies. The audience of the project has been formed, which is based on mining professionals from around the world.

A unique library of almost 700 reports has been created. Extensive experience in holding industry-specific online and hybrid events has been gained.

Also, OERN members published a number of publications relating to the international standards, CRIRSCO Template and the NAEN Code.

Members of the OERN continue to work in the expert technical Council of the State Commission on reserves (GKZ).

12.5. New members

OERN has continued granting its membership to new members, in 2022 OERN accepted 43 new members.

12.6. Conclusion

Future plans OERN is going:

- to continue working on development of the Russian society of Competent persons.
- to continue working on the NAEN Code improvement and make amendments bring it to the today's reality.
- to continue education program for students and professional skills development of OERN members– webinars, seminars, conferences and workshops.
- to continue working on harmonization of Russian and international reporting systems in more details.

13. SOUTH AFRICA – SAMREC

Report on Activities of SAMREC Committee (August 2021 – August 2022)

Ken Lomborg, Chairman – SAMREC Committee, CRIRSCO Representative

13.1. Covid 19

The Covid pandemic has resulted in alternative approaches to the activities of the SAMREC Committee. Meetings are held successfully via Zoom or Teams. The training programmes have also been adapted to the virtual environment.

13.2. Meetings

Meetings were held on, 25 November 2021, 24 February 2022, 26 May 2022 and 25 August 2011. All meetings were held as virtual meetings (Zoom). This enabled contributions from individuals previously not able to attend. The importance of addressing technical issues over and above administrative issues was emphasized a number of times.

13.3. Smart Phone App

The App which includes the SAMREC Code, The SAMVAL Code, The SAMESG Guidelines, The Diamond Guidelines and Listing Requirements of the JSE was completed for android phones. A work around has been developed so that Apple users can use the content.

The app was used to get some responses from the industry to the results of the ESG discussions. The function that provides small questionnaires was tested. In both cases the response was not as good as had been hoped.

13.4. Courses/Conferences to be held

13.4.1. SAMCODES conference – 25 – 29 November 2021

The SAMCODES Virtual Conference 2021 was successfully held on 5 mornings during the week of 25 October 2021. It included papers and presentations on Mineral Resource and Mineral Reserve aspects related to SAMREC as well as a number of presentations relating to mineral asset valuation. (SAMVAL). The conference was held online and attended by some 40 people on each day. The intention was to provide an opportunity for industry experts, emerging Competent Persons' and sector

investors to share and explore developments in the application of the Codes, in particularly since the last conference in 2016 and the launch of the SAMREC and SAMVAL Codes in 2016. The presentations and papers certainly met this objective.

13.4.2. Compliance and Reporting Rules – The University of the Witwatersrand 18 – 22 November 2021 and 26 -30 September 2022

This Course was coordinated by Dr Tania Marshall. She recruits a number of eminent practitioners - 30 to present the various aspects of the SAMREC Code that is included in the curriculum. Some 25 people attended the course. The course includes an exam. The knowledge of SAMREC and the other Codes is generally poor. An outcome of this course was the confirmed need for more training.

13.4.3. ESG Inquisition 10 – 11 August 2022

A questionnaire was distributed and the results presented for discussion. Some of the points noted were:

- ESG aspects should be included in Mineral Resource and Reserve reporting. The details and level of disclosure being the tricky part.
- There are aspects of ESG that relate to Mineral Resources and Reserved public reporting that are different and don't include aspects that investors and other interested parties would be considered important.
- Sustainability was noted as not being an aspect to be included in the SAMRRC Code although investors may have an interest in sustainability
- The ESG requirement is not the trigger for a data dump that the CP or the reader of a CPR has to trawl through to find the relevant aspects to the Mineral Resource or Reserve being reported.
- Correlation of ESG matters should exist between the various CROTSCO Codes
- An ESG working group was set up to address some of these issues.

13.4.4. ESG Working Group

This group has met regularly during the year with the following activities.

- 2021 GSSA ESG Inquisition Outcomes
 - Consolidation and evaluation of presentations, panel discussions and comments

- Distil key conclusions & learnings
- Stakeholder Landscape mapping
 - High level direct engagement with an initial group of stakeholders to obtain their inputs
- Peer group alignment
 - Liaison with other Committee for Mineral Reserves International Reporting Standards (CRIRSCO) national reporting organisations (NROs) to maintain alignment with international developments
- Comprehensive and Inclusive Stakeholder Engagement
 - Soliciting inputs into guidance update
- Guidance update
 - SAMESG and SAMCODES - Prepare an initial, updated, draft guidelines and proposed amendments to SAMCODES, if required
 - Present this for peer review and broad public comment on the updated guidance

13.4.5. Implications of S-K1300 regulations and disclosures for dual-listed companies on the JSE and NYSE (5 – 6 September 2022)

A number of presentations were presented in this virtual conference. The main contributors were from the JSE and various practitioners who had prepared TRS for the NYSE. A group of interested people has been formed to support the various companies involved and the practitioners who prepare the TRS documentation.

13.4.6. Mineral Asset Valuations Course UCT Q1 and Q2 2022

Various aspects of the SAMREC Code were included in the curriculum in support of the valuation approaches and the use of the SAMVAL Code.

13.5. CSA Consultation Paper 43-401 - Consultation on National Instrument 43-101 Standards of Disclosure for Mineral Projects (April 14, 2022)

A submission was made in response to the request for feedback about the efficacy of several key provisions of NI 43-101.

13.6. Activities for CRIRSCO

- Roger Dixon and Ken Lomberg continue to contribute to CRIRSCO activities.
- Ken Lomberg is now the Immediate Past Chairperson of CRIRSCO for the 2022 year.

13.7. Membership

The SAMREC Code is supported by its patrons the Geological Society of South Africa (GSSA) and the Southern African Institute of Mining and Metallurgy (SAIMM). Neither organization has a category for Competent Persons. Similarly, the Institute of Mine Surveyors of South Africa (IMSSA) does not have a specific CP category. The statutory organizations – South African Council for Natural Science Professions (SACNASP), Engineering Council of South Africa (ECSA) or South African Geomatics Council (SAGC) require registration for professionals but do not have a category for CPs.

13.8. Complaints

- No Complaints have been received.
- There are no on-going complaints.

This remains an area of concern that no complaints are made. It reflects the issues relating to the small community of SAMREC practitioners and the reluctance to point our colleagues out for not applying the Code properly, even for significant breaches of the Code.

14. TURKEY – UMREK

14.1. The UMREK

The National Resources and Reserves Reporting Committee of Turkey (UMREK) has been incorporated as a private, non-profit organization to act specifically as the Turkish National Reporting Organization (NRO) in CRIRSCO and mainly focuses on establishing, promoting, and managing the efforts to develop the Turkish mining sector. UMREK was established with the aim of accurate, reliable, and transparent reporting of exploration results, mineral resources and mineral reserves in accordance with international reporting standards based on the article 14 of Mining Law No.3213, published on September 7, 2016, in the official gazette No.29824. The core of this endeavor consists of utilizing the best engineering and global geoscientific practices for the exploration of mineral resources and the application of reporting guidelines in accordance with CRIRSCO standards and the certification process of the Competent Persons.

UMREK has been responsible for:

- I. Preparing the Turkish National Reporting Code, standards, and guidelines,
- II. Developing and implementing policies and strategies regarding the Turkish Code for Public Reporting of Exploration Results, Mineral Resources and Mineral Reserves (UMREK Code),
- III. Improving and updating the reporting standards while ensuring compliance with the CRIRSCO template,
- IV. Cooperating and collaborating with CRIRSCO members,
- V. Participating in CRIRSCO organizations, meetings, and events,
- VI. Establishing, developing and implementing the required system, policy, strategy, and objectives for the national resources and reserves reporting by considering the financial aspects,
- VII. Determining the criteria for Competent Person applications and issuing competency certificates.

UMREK convened at least once a month between October 2021 and September 2022 and held 13 meetings in total. The first meeting in this period was the 53rd Committee meeting held on October 6, 2021, and the 64th meeting held on September 7, 2022, was the last one.

In the period 2021-2022, UMREK focused primarily on implementing its three-year strategic plan for all stakeholders in the Turkish mining sector. Also, as it's also intended to be applicable, as per the Dimension Stone & Construction Materials sector, it's widely agreed that the PERC collaboration will be undertaken. Considerable mileage has been achieved in enhancing the official website. Since the current UMREK website is not user-friendly and outdated in terms of design and interface, initiatives have been taken to create a more modern website in terms of both visuals and content. Apart from that, Competent Person certificates will be issued as e-certificates and have reached the final stage of completion.

14.2. UMREK Committee Members

The committee, of which four members were appointed for the first time, is listed below (**Table 1**) has been selected for three (3) years, effective from September 24, 2020. Following the appointment, Prof. Dr. Atiye TUGRUL was selected as vice chairperson of the Committee by a unanimous vote of the members. Cem YÜCEER was also co-opted by the committee as the CRIRSCO representative for Türkiye, together with Mrs. TUGRUL.

Table 8: The current committee members.

Committee Member	Institution	Title
Cevat GENC	Mining Engineer - General Manager of General Directorate of Mining and Petroleum Affairs (MAPEG)	Chairperson
Prof. Dr. Atiye TUGRUL CRIRSCO Representative	Geological Engineer - Academician at İstanbul University-Cerrahpaşa	Vice Chairperson
Cem YUCEER CRIRSCO Representative	Geological Engineer – General Manager of Artvin Mining Enterprises Inc.	Member
Muhammet ERİSEN	Lawyer- Vice Chairman of Banking Regulation and Supervision of Agency of Turkey (BBDK)	Member

Abdulkerim AYDINDAG	Geological Engineer- Deputy General Manager of General Directorate of Mineral Research and Exploration (MTA)	Member
Prof. Dr. Recep BILDIK	Finance and Capital Markets Expert-Academician at İstanbul Ticaret University	Member
Kadem EKSI	Geophysical Engineer – Chairman of EMA Geosciences	Member
İbrahim Halil KIRSAN	Mining Engineer- TOBB Turkey Mining Council President	Member
Veli DOGAN	Mining Engineer- Board Member and Director at Lidya Mining	Member

14.3. UMREK Working Groups or Subcommittees

UMREK has seven working groups or subcommittees dealing with different topics for the fulfillment of the tasks. Each committee member leads different working groups as a chairperson. The working groups of UMREK consist of several mining professionals representing industry and government and have a good representation of different mining and geoscience disciplines. Each of these deals with aspects of mining issues concerning international reporting standards, UMREK, the Turkish mining sector and legislation about mining. The current studies being carried on by each working group/subcommittee are given below:

14.3.1. The Working Group on Legislation and Reporting Standards Preparation

The 2nd version of the UMREK Code (2021), developed by the working group based on the CRIRSCO Template updated in 2019, was adopted by the Committee in April 2022 and submitted to CRIRSCO for approval. The Code (2021) is now subject to the review process of CRIRSCO. Following its approval by CRIRSCO, publicity meetings will be organized to promote the 2nd version of the Code.

The 2nd version of the UMREK Code has the following revisions indicated below:

- The section of the Reporting of Exploration Results, Mineral Resources and Mineral Reserves for Industrial Minerals, Cement Feed Materials and Construction Raw Materials (Aggregates) was revised, and it is more definitive for the users and much more reflective of current Turkish conditions in that specific area. The UMREK Code (2018) has separate chapters for industrial minerals, cement feed materials, and construction raw materials. However, the new version of the Code (2022) merges these two chapters to be compatible with the CRIRSCO Template (2019).
- The section of the Reporting of Exploration Results, Mineral Resources and Mineral Reserves for Dimension Stone, Ornamental and Decorative Stone was revised, and it is more definitive for the users and will be much more reflective of current Turkish conditions in that specific area.
- The format type of the Code is the same as the CRIRSCO Template (2019), and the Code was prepared by merging the information contained in both the previous version of the UMREK Code (2018) and the Template.
- Both the English and Turkish editions were fixed for grammar and spelling mistakes.
- The terminology of the resource/reserve classification system was revised and more proper terms and descriptions are used in the Turkish edition. As part of this study, several mining professionals representing industry and government agencies, such as the Turkish Linguistic Society (TDK), the General Directorate of Mineral Research and Exploration (MTA), and the General Directorate of Mining and Petroleum Affairs (MAPEG) have participated in the working group.

14.3.2. Training and Certification Working Group

- On March 4, 2022, the UMREK workshop was held at the General Directorate of Mineral Research and Exploration (MTA). 341 people attended the workshop, which was held as a hybrid in three sessions, both virtually and in person. In the morning session of the workshop, Mr. Nuri CEYHAN, a member of the Board of YERMAM, made a presentation about “The UMREK Code and Practices” and Mr. Bayram ARTUN, a member of the YERMAM Ethics Committee, made his presentation on “Ethics Education, Competence and Responsibility”. In the afternoon session, Ms. Ceylan POLAT TREGENZA, a member of the UMVAL Subcommittee, made an online presentation about "Mineral Property Valuation Methods/Standards" and Prof. Dr. Recep BİLDİK, the chairperson of the UMVAL

Subcommittee, gave his online presentation about “Banking and Finance in the Mining Sector”.

- A meeting and in-company training were organized with the participation of 26 people on May 28, 2022, at the North Aegean Regional Directorate of Mineral Research and Exploration to discuss the UMREK Code applications in metallic mineral exploration and feasibility phase (Figure 19).
- In this working group, three meetings were held in 2021 and two meetings were held in 2022 until October.



Figure 19: Training about UMREK Code Applications in Metallic Mineral Exploration.

14.3.3. The Subcommittee on Valuation of Mineral Properties (UMVAL)

- The subcommittee aims to prepare the Mineral Properties Valuation Code of Turkey (the UMVAL Code). The subcommittee initiated the procedure in December 2020 and since then, six meetings have been held with committee members, academicians and sector representatives.
- The subcommittee members have contacted the International Mineral Valuation Committee (IMVAL) to prepare the Turkish Valuation Code which will comply with the IMVAL Template (April 2021). To do so, the template has been translated into Turkish and used as a reference. The subcommittee has also contacted with the country representatives of SAMVAL, VALMIN and CIMVAL as well and ideas were exchanged. Studies continue by examining other previously published codes and the current situation and laws in Türkiye.
- Four meetings were held in 2021 and three meetings were held in 2022 until October.
- The subcommittee drafted the UMVAL Code, using the other valuation codes of several countries as references, and submitted it to UMREK. The UMVAL Code, which was approved by the members, was sent to nine organizations in August 2022 for their review. The code, which was updated upon the reviews sent, has reached the final stage to be published in its Turkish version. On the other hand, the study of its English translation has been started and will be sent to IMVAL (The International Mineral Valuation Committee) for review when it is completed.

14.3.4. Ethics Committee

- The committee aims to regulate the procedures and principles regarding the ethical rules that should be followed by Competent Persons and the complaints to be made regarding these rules.
- In 2021, the committee held three online meetings. “Communiqué on the Procedures and Principles Regarding UMREK Competent Person Ethics”, which has four chapters and fourteen articles, has been revised and updated and submitted to UMREK for evaluation. Then, the UMREK Committee will notify Competent Persons about the Communiqué. The committee held four more online meetings in 2022.
- The committee reviewed a complaint filed by a mining company on March 18, 2022, and requested a plea from the Competent Person against whom the complaint was made.

- The coal report, prepared by a mining company in accordance with the UMREK Code (2018), was viewed by the Committee. The Committee will decide on the Competent Person who prepared the report and will notify UMREK.

14.3.5. The Subcommittee on Environmental, Social and Governance (ESG) Matters

- In 2021, the subcommittee held three online meetings, evaluating the state of Türkiye's approach to the matter at hand, identifying the major problems and examining some of the related codes and guidelines.
- In 2022, the subcommittee held five online meetings, discussing predominantly the SAMESG Guideline and framing the national ESG Guideline.
- The document and presentation shared by CRIRSCO ESG Subcommittee were reviewed at the last ESG Subcommittee meeting. The recommendations of Türkiye were added to the draft document to submit to the CRIRSCO ESG Subcommittee, and also some of the subjects in the document were decided to be put into the national ESG Guideline.
- The subcommittee aims to present an ESG guideline that is compliant and applicable to the conditions of the Turkish mining sector as soon as possible. As the ESG Guideline draft has been prepared, the national ESG Guideline is planned to be finalized after taking the opinions of UMREK committee members and relevant institutions and organizations.

14.3.6. The Subcommittee on Sectoral Relations

- In 2021, the subcommittee held two online meetings to evaluate the mining sector's approach to UMREK, reporting standards and the Code to iterate the importance and the ease of standard reporting protocols and systems
- The subcommittee has decided to schedule a series of meetings with both governmental and non-governmental organizations (NGO), intending to inform every component of the mining sector as correctly as possible about UMREK. The first of these meetings was held with the attendance of the chairman of some respected NGOs and the rest is to be scheduled until the end of the year.

- UMREK Vice President, CRIRSCO Country Representative, Prof. Dr. Atiye Tugrul was the guest of the "Maden Dünyası" program broadcast on BloombergHT Turkish television channel on January 25, 2022 (Figure 20), with the contributions of the Yurt Mining Development Foundation. Tugrul made a presentation on "The Contribution of UMREK Code Reporting to the Economy" in the program.
- "The Importance of UMREK Code Reporting on the Contribution of Mining to the Economy" was presented at the fourth Mining Workshop of "Our Life is Mine" held on January 15, 2022, in İstanbul-Türkiye.



Figure 20: Prof. Dr. Atiye Tugrul at the "Maden Dünyası" program on BloombergHT.

14.3.7. The Subcommittee on Relations with Professional Organizations

- The subcommittee aims to strengthen cooperative relations and possible collaborations and to develop close ties with professional organizations and unions such as the United Nations Framework Classification for Resources (UNFC), the European Federation of Geologists (EFG), the Geological Society of London (GSL) and the Institute of Materials, Minerals and

Mining (IOM3), etc. that share similar interests regarding the mining industry and high standard reporting of mineral resources and reserves.

- The subcommittee organized an online meeting with the Australasian Institute of Mining and Metallurgy (AusIMM) on March 9, 2022. During this meeting, introductory presentations were made by UMREK and YERMAM. YERMAM was represented by Prof. Dr. Yılmaz OZCELIK, chairperson of the Board of Directors and Nuri CEYHAN, member of the Board of Directors. Prof. Dr. Atiye TUGRUL and Cem YUCEER, representing UMREK, also joined the meeting. During the meeting, ideas were shared about future collaborations. It was decided to hold a second meeting to exchange information between the organizations on professional ethical standards, mineral resources, and reserves reporting codes and training for CPs' professional development.

14.4. UMREK Regular Meetings

The Committee members regularly meet at least once a month to discuss several subjects related to the national reporting standards and guidelines and the financial aspects of reporting. UMREK held 13 meetings in total between October 2021 and September 2022. The main subjects of these meetings have been:

- Discussing and finalizing Competent Persons' applications submitted by the professional organization, the Association of Geosciences, Mining and Metallurgy Professionals of Turkey (YERMAM),
- Publication of the 2nd version of the UMREK Code following its approval by CRIRSCO,
- Preparation of the Mineral Properties Valuation Code of Turkey (the UMVAL Code),
- Preparation of a national ESG guideline,
- Organizing meetings/symposiums for different elements of the mining and exploration industry to raise the recognition of the UMREK Code,

Furthermore, according to the Committee's decisions CP candidates to be notified to UMREK will be subjected to compulsory training by YERMAM. The certificates of two CPs were revoked due to the loss of the necessary criteria. The certificates of eight CPs, who did not submit continuous professional development (CPD) forms, were suspended for a year.

An online meeting was also held between UMREK and YERMAM in May 2022.

14.4.1. YERMAM

YERMAM submitted 34 professional membership files for CP applicants to the UMREK in 2021. Only one applicant has become entitled to get a CP certificate between October 2021 and September 2022. YERMAM continuously submits more applications based on CP criteria for the committee’s review. As of September 2022, the total number of CPs is 133. In addition, YERMAM requested from 133 competent persons, who received the certificate in 2019, 2020, and 2021 to fill out a Continuous Professional Development (CPD) form for the term 2021.

Table 9 indicates a summary of information about CPs’ applications, and Figure 21 also presents the percentage distribution of CPs’ professions in a pie chart. According to the chart, 82 CPs out of 133 are geological engineers; 39 CPs are mining engineers; 4 of them are hydrogeological engineers; 2 of them are geophysics engineers; 3 of them are geologists; 1 CP is an environmental engineer; 1 CP is a survey engineer; and 1 CP has a double major in mining and geological engineering. There is also one foreign mining professional who has become entitled to get the CP certificate this year.

Table 9: A summary table about CPs’ applications and complaints.

Total CP Applicants	Rejected	Pending	Revoked CP Certificate	Approved	Complaints handled during the year
194	26	33	2	133	1

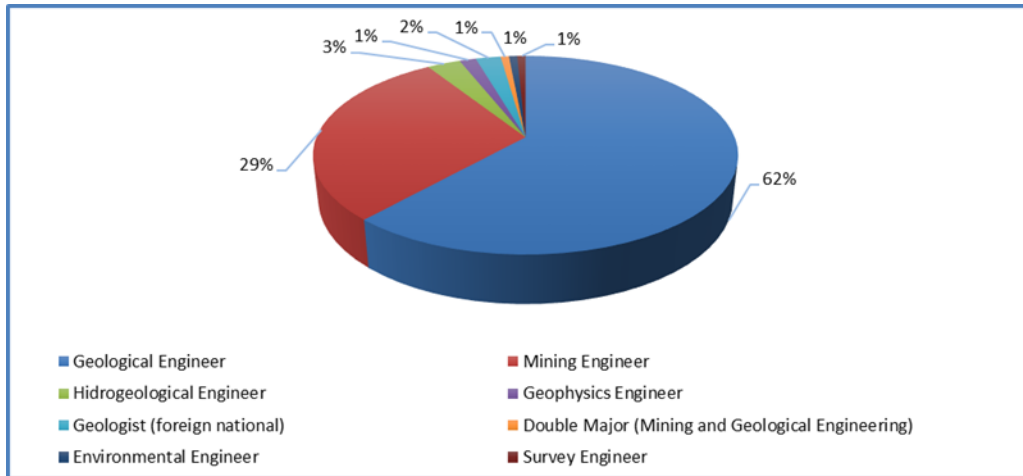


Figure 21: The percentage distribution of CPs' professions.

14.5. Professional Training Initiatives

Competent Persons must engage in a personal program of continuous professional development (CPD) activities to maintain ongoing certification. These CPD activities and programs have been organized by the professional organization, YERMAM. The curriculum and formats of these programs have also been discussed with the training and certification working group. In addition, YERMAM has been working cooperatively with the Turkish Association of Economic Geologists (MJD: TAEG) to organize these training programs for CPs. A summary of the training programs organized from September 2021 to 2022 is provided in Table 10 below:

Table 10: A summary of the training programs.

Course Title	Course Date	Course Duration
International Best Practices on Code-Compliant Technical Reporting, and Proposed Changes to the JORC Code	September 2021	2 hours

Impacts of Mining Operation Permits on the Turkish Mining Sector	December 2021	2 hours
Ratio of Land Use Fees, License Fees, Royalties & Operating and Investment Expenses for Mining in Turkey	February 2021	2 hours
Airborne Electromagnetic and Airborne Gravity Gradiometry Systems and Case Studies in Mining	February 2021	2 hours
Technical Evaluation Methods for Mining Investment Projects and the Sources of Risk and Uncertainty for Projects	March 2022	2 hours
High Resolution Imaging of Geological Settings with Surface Source and Downhole Receiver Seismic Methods	April 2022	2 hours
The UMREK Code (Scope and Principles, Exploration Results, Mineral Resource and Mineral Reserve Reporting)	May 2022	8 hours
The UMREK Code (Scope and Principles, Exploration Results, Mineral Resource and Mineral Reserve Reporting)	June 2022	8 hours

14.6. List of other events, conferences, etc.

14.6.1. UMREK Workshop:

On March 4, 2022, the first UMREK workshop by the UMREK Training and Certification Working Group was held in the Sadrettin Alpan Hall of the Mineral Research and Exploration General Directorate (Figure 22).

Mr. Abdulkerim AYDINDAG, General Manager of Mineral Research and Exploration General Directorate, attended the workshop as the MTA Representative of UMREK. Mr. AYDINDAG and UMREK Vice Chairman Prof. Dr. Atiye TUGRUL delivered the workshop's opening remarks.

At the end of the presentations in the workshop, which was attended by both physical and online participants, UMREK TOBB Representative Mr. Halil KIRSAN presented Mr. Nuri CEYHAN with a certificate of appreciation, and UMREK Sector Representative Mr. Cem YUCEER presented Mr. Bayram ARTUN with a certificate of appreciation.

Mr. Cevat GENC, chairman of UMREK, stated that the workshop was organized by the UMREK Training and Certification Working Group, which is one of the most important working groups of UMREK, for the purpose of contributing to the continuous professional development of Competent Persons and all components of the mining sector. Mr. GENC stated that these organizations will be beneficial for the development of the mining sector in general and emphasized his wish for the organization of similar workshops to be continued in the future.



Figure 22: Photos of the UMREK Workshop held on March.

14.7. Other Key Activities

There are seven released reports that are publicly compliant with the UMREK standards by five listed mining companies. A summary of the released reports compliant with the Code is provided in Table 11 below:

Table 11: A summary of the released reports compliant with the UMREK Code.

Company	Report Type
Koza Gold Corporation	The Resource Estimation Report of Karapınar Gold-Silver Project in Çanakkale province (December 31, 2019) <i>*The 1st press release published in accordance with the UMREK Code.</i> 2019 Annual Report (February 10, 2021) 2020 Annual Report (December 12, 2021)
AVOD Gold Mining Industry and Trade Inc.	The Resource Estimation Report for Copper Project in Çorum province (June 1, 2020)
Gübretaş Mining Investments Inc.	The Resource and Reserve Press Release of Söğüt Gold Project in Bilecik province (January 19, 2021)
TÜMAD Mining Inc.	The Resource Estimation Report for İvrindi Gold-Silver Project in Balıkesir province (August 2021)
Park Electricity Production Mining Inc.	The Resource Estimation Report for Ilgın Coal Project in Konya province (January 10, 2022)

14.7.1. Code Update

The 2nd version of the UMREK Code (2021), developed by the working group based on the CRIRSCO Template updated in 2019, was adopted by the Committee in April 2022 and submitted to CRIRSCO for approval. The Code (2021) is now subject to the review process of CRIRSCO. Following its approval by CRIRSCO, publicity meetings will be organized to promote the 2nd version of the Code.

14.7.2. RPO List

There has been no change to the list of recognized professional organizations (RPOs) during the year. YERMAM is the only professional organization recognized by UMREK and also to act as a Competent Person the required membership class of YERMAM is professional membership.

15. UNITED STATES OF AMERICA – SME

Don Hulse, PE
SME Registered Member
Co-chair, SME Resources &
Reserves Committee



Brian Groff, PE
SME Registered Member
Certified Minerals Appraiser
Co-chair, SME Resources &
Reserves Committee

Figure 23: SME Registered Member

15.1. SME Vision

Building a better world through mining, metallurgy and underground construction.

- I. Industry Innovation**
 - Goal: SME is the venue of first choice for disseminating research leading to innovation and encouraging its applications in mining and underground construction.
- II. Industry Workforce**
 - Goal: Mining, metallurgy, exploration and underground construction are careers of choice.
- III. Environmental Stewardship**
 - Goal: SME is recognized as the premier resource for information on responsible mining and underground construction.
- IV. Association Growth**
 - Goal: SME Leads in amalgamating the community to build a better world.

15.2. US SEC Related

- S-K 1300 reporting requirement after January 1st, 2021
- US Registrants are filing under the new rule, and Technical Report Summaries are appearing as exhibits to annual reports.
- Search EDGAR for “Exhibit 96.1” within the Main Search
- Registrants who read and follow the rule will not have much difficulty with SEC staff review.
 - Read and follow the rule

15.3. SME Resources & Reserves Committee**15.3.1. Accomplishments since the last board meeting report.**

- Updated our Recognized Professional Organizations list. <https://www.smenet.org/Professional-Development/SME-Guide-for-Reporting>
- Committee members met in Denver and virtually for three days in July to work towards updating the SME Guide. The committee was able to get through most sections of the new guide and make great progress toward a working draft.

15.3.2. Future / Upcoming Activities

Short Term Goals:

- Finish the working draft into the first draft of the new guide. The goal is to produce an exposure draft for review by 1) SME and 2) CRIRSCO members.
- In the US, Regulation S-K 1300 is the reporting standard, and the new guide will focus on harmonizing the CRIRSCO definitions and template with the US SEC requirements.
 - Chapter 1 Forward, Purpose, & Governing Principles
 - Chapter 2 Definitions

- Chapter 3 Competence [in reporting]
- Chapter 4 Levels of Technical Studies and Information
- Chapter 5 Markets and Pricing
- Chapter 6 Permitting and Legal (as in tenure or right to mine)
- Chapter 7 Environmental, Social, Governance

15.4. SME Upcoming

- Annual MineXchange to be held in Denver, February 26-March 1, 2023.

16. POTENTIAL NEW NROs

16.1.1. Ecuadorian Corporation of Mineral Resources and Reserves (CERRM)

In the coming days of this month, it will be two years since the signing of the MOU (Memorandum of Understanding) signed between CERRM and CRIRSCO, we were with all the desire to achieve our imposed goal, to become part of CRIRSCO this year, unfortunately various circumstances such as post-pandemic closures, stoppage of work for our activity in our country, political circumstances unrelated to the organization and our activities, delayed having all the necessary documents to become part of the Mineral Reserves and International Standards Committee of CRIRSCO Information.

On October 16, 2020, the official presentation of the Ecuadorian Corporation of Mineral Resources and Reserves was made through a platform in our country in which we had the presence of Mr. Ken Lomberg as Chairperson CRIRSCO, informing the government authorities, mining companies in the country, universities and polytechnic schools in Ecuador, entrepreneurs in the mining sector and professionals.

The road has been long, but we are getting closer to our goal because we have fulfilled 65 - 70% of the outlined activities, we are missing the last step and I believe that until the end of the year we will be able to comply with the delivery of the Standards that is the only missing document that has already had a first review and is being worked on to reconfigure it. The Code of Ethics and Statutes have already been approved by the commission created by CRIRSCO for this purpose and have already been translated.

17. EXPERT GROUP ON RESOURCE MANAGEMENT (ERGM)

17.1. United Nations – Working Group on Extractive Industries

Terms of Reference

Lying at the heart of the energy transition, extractive industries have immense potential to play a central role in financing sustainable development, driving inclusive growth, and reducing poverty in many low and middle-income countries.

In the context of COVID-19, which resulted in reduced revenues and surging debt burdens for many commodity-dependent countries, extractive industries provide an opportunity for vulnerable countries to inject much-needed liquidity into their economies to cover health and social expenditures and avoid insolvency. The green transition also provides a 20–30-year window of opportunity for many developing countries rich in the resources needed for the green transition, who may emerge as new extractive exporting countries¹, to lay the groundwork for more diversified, inclusive, and resilient societies — including by creating new jobs in the green sector.

To achieve these aims and fill some of these gaps, in October 2020 an Initiative on Extractive Industries was launched as part of the Financing for Development in the Era of COVID-19 and Beyond Initiative (FfDI). The Initiative resulted in five Regional Roundtables hosted by the Regional Economic Commissions (RECs) and culminated in a policy brief by the RECs and a policy brief by the Secretary-General, the latter of which set out a clear list of 18 recommendations to transform the sector. These were then presented to and discussed by Member States and other high-level representatives during a Global Roundtable on Extractive Industries held on 25 May 2021.

The Secretary-General has proposed the creation of a Working Group on Extractive Industries to ensure that the outcomes of the Roundtables on Extractive Industries and the recommendations highlighted in his policy-brief are translated into concrete policy outcomes at the regional and national level.

¹ Many low and middle-income countries are rich in the commodities needed for the renewables revolution and clean technologies, including lithium, graphite, manganese, cobalt, and critical raw materials (CRMs). However, greater international attention is needed to support this group of countries, to ensure that they do not suffer from the resource curse, including by supporting economic diversification efforts, investments in job creation and re-skilling programmes in the green economy, and the creation of long-term policies and plans to achieve a just transition to a circular, inclusive, and resilient future.

Objectives of the Working Group

- To develop a common narrative and framework for how the world will achieve a just transition to sustainable systems through the transformation of the extractives sector.
- To develop policy recommendations, tailored to governments at the national level, as well as separately to non-state actors, from both the global north and south, for their specific contexts, to support a just transition to sustainable systems.
- To foster collaboration to better respond to existing and emerging extractive industries' needs for state and non-state actors.
- To create and provide a forum and central hub of information and knowledge exchange for governments, the private sector, civil society, and other stakeholders to discuss global policy actions, easily access global standards and tools, and assess best practices that can expedite the transformation of the sector.
- To align efforts with ongoing processes and events relevant to extractive industries, such as the UN High-Level Dialogue on Energy, meetings of the Conference of Parties to Multilateral Environmental Agreements², the outcomes of the fifth session of the UN Environment Assembly (UNEA-5), and the UN Ocean Conference.

Coordination

The Working Group would be co-led by the Regional Economic Commissions (on an annual rotating basis, with ESCWA in that role in 2021), UNDP, and UNEP. The co-leads will coordinate and promote synergies between the activities of the UN system working on the topic at the global and regional level, including UNCTAD and ILO, and will ensure that the recommendations on extractives are implemented at the national level, including in pilot countries as part of the Financing for Development in the Era of COVID-19 and Beyond Initiative (FfDI), and mainstreamed throughout the Clusters as relevant, as part of the FfDI. Relevant entities from the private sector, public sector, civil society, financial institutions and multilateral development banks, and Member States, including the World Bank, the Organization for Economic Cooperation and Development (OECD), the European Union, the Intergovernmental Forum on Mining, Minerals, Metals, and Sustainable Development (IGF), the Extractive Industries Transparency Initiative (EITI), the International Institute for Sustainable Development (IISD), and ECE's Expert Group on Resource Management (EGRM), will also be invited

² Such as the CBD, UNFCCC, BRS Conventions, Minamata Convention

to join. The co-leads will be responsible for liaising with focal points from these entities to ensure there is buy-in from relevant stakeholders and linkages to the global level.

The Working Group will provide updates on the outcomes of the Initiative, including the work at the regional level conducted by the RECs, progress in pilot countries, and the adoption of announcements by Member States to the Executive Office of the Secretary-General on a biannual basis.

Members of the Global Working Group should meet for the first session during the first quarter of 2022 and moving forward every six months to ensure delivery of results. In the first quarter of 2023, there will be a stock-taking to reassess whether the level of ambition should be changed or enhanced.

Deliverables

1. Consolidate the mapping of extractive industries initiatives, including those related to governance and revenue management, at global and regional levels.
2. Produce a package of guidelines, tools, and policy recommendations for enhancing sustainability and responsibility in the development and governance of extractive industry resources to secure a just transition for all.
3. Help to shape national strategies, and industrial policies and accompanying financing strategies, to support achievement of the SDGs, secure a just energy transition, create new, decent job opportunities in the green economy³, and attain a circular and inclusive economy including by using integrated national financing frameworks (INFFs) and building on NDCs and national commitments for the attainment of SDGs.
4. Support emerging extractive economies and regions, in particular LDCs, LLDCs and SIDS, in establishing responsible and sustainable governance frameworks and securing a just transition, including by developing battery, electric vehicle, and renewable energy value chains and strategies to add value and local content to new supply chains⁴.

³ ESCWA has created a regional learning platform as part of efforts to implement capacity building for government institutions to support re-training and re-skilling programmes for the empowerment of women and youth in green jobs. This effort could be scaled-up across all regions.

⁴ On 24-25 November, ECA hosted the DRC-Africa Business Forum on Fostering the Development of a Battery, Electric Vehicle and Renewable Energy Value Chain and Market in Africa with the aim of fostering the development of a battery, electric vehicle, and renewable energy industry value chain and market in Africa, which is rich in resources needed for lithium-ion

5. Further align public and private finance in the extractives sector with the SDGs and Paris Agreement, including by strengthening harmonization and classification schemes, establishing a global financial taxonomy⁵ and de-risking sustainable investments⁶, combatting illicit financial flows in the sector⁷, and developing a comprehensive framework for traceability, transparency, and sustainability in supply chains.
6. Facilitate the systemic inclusion of women, civil society, and vulnerable groups, including indigenous communities, in the creation of the above-mentioned policies and finance strategies to secure a just transition, including by convening regular workshops with them.
7. Ensure regional and national-level work supports, enhances, and fills gaps in ongoing efforts to transform extractive industries, including the outcomes of UNEA-5 and aligned with the 2030 Agenda for Sustainable Development.
8. Biannual report back on progress to EOSG including an outline of way forward and recommendations of where the SG's messaging is warranted.

The complete text is available at <https://unece.org/sustainable-energy/unfc-and-sustainable-resource-management/united-nations-framework-classification>.

batteries. Similar efforts should be replicated in other regions supported by RECs and relevant partners, including in the “lithium triangle” of Argentina, Bolivia, and Chile.

⁵ ECE will lead on developing a global financial taxonomy system for extractive resources and building upon the United Nations Framework Classification (UNFC) and United Nations Resource Management System (UNRMS) under development.

⁶ ESCWA will establish a coordination platform on de-risking renewable energy and energy efficiency investments (DREEI) to assist policymakers in developing countries to cost-effectively promote and upscale private sector investment in sustainable energy. Their platform will include coordination between private sector, multilateral development banks, and governments from Arab Member States. This effort could be scaled up across all regions.

⁷ Together with the RECs, ECA is working to develop a global legal framework for asset recovery to support Member States on following-up with resources identified to have been lost through IFFs, and to return them to finance sustainable development programmes. ESCWA has also advanced on progress to develop methodological guidelines to estimate IFFs (SDG 16.4), including the area of extractive industries.

17.2. United Nations Framework Classification for Resources (UNFC)

The United Nations Framework Classification for Resources (UNFC) is a resource project-based and principles-based classification system for defining the environmental-socio-economic viability and technical feasibility of projects to develop resources. UNFC provides a consistent framework to describe the level of confidence of the future quantities produced by the project. The UNFC update 2019 is available at https://unece.org/DAM/energy/se/pdfs/UNFC/publ/UNFC_ES61_Update_2019.pdf.

Similarities and differences between CRIRSCO and the UNFC classifications

Table 12: CRIRSCO vs. UNFC. Presentation by Roger Dixon (May 31, 2022).

CRIRSCO	UNFC
<ul style="list-style-type: none"> • Friendly classification • NRO • Standing Committee • Require CP • Trainings • Accepted by the Stocks Markets • Accepted by the mining companies • Accepted by some governments 	<ul style="list-style-type: none"> • Friendly classification, aligned with CRIRSCO. • Recommended to some Countries with no CRIRSCO • No accepted by Stocks Markets • No accepted by mining companies because there is no CP involved. • No required CP nor NRO. • Includes renewable resources such as Solar, wind, thermal, bioenergy, hydroelectric, etc. This is not clear.
CONCLUSIONS	
<ul style="list-style-type: none"> • The UNFC is a friendly classification. • The UNFC is used by countries with no CRIRSCO initiatives. It is basically a guide to help to classify its resources. • The UNFC is not accepted by the Stock market. • The UNFC includes renewable resources in its classification. Very different from CRIRSCO. • In Europe (??) some countries don't accept the UNFC system because there is no CP involved, only governments. 	

18. INTERNATIONAL SEABED AUTHORITY (ISA)

18.1. A Mining Code for the Deep Sea (Elham Shabahat)

Since the late 1800s, when the HMS Challenger expedition traversed the world's oceans for the first time to gather scientific data about the deep sea, scientists have known about the "greatest hauls of manganese nodules" that rest within the seafloor. Almost a century later, John Mero, a mining engineer from the University of California, Berkeley, became one of the first proponents of deep-sea mining when he argued that these nodules hold enormous economic potential. In his book *The Mineral Resources of the Sea*, published in 1965, Mero asserted that these potato-shaped nodules were limitless and available to most nations that wished to mine them.

Skip forward half a century and Mero's predictions are now known to be on the verge of hyperbole. But the idea of exploiting these nodules—also referred to as polymetallic nodules, as they can contain cobalt, nickel, and copper as well as manganese—has attracted increasing interest. With the technology to mine the seafloor under development, and companies looking to secure valuable leases, the main impediment to deep-sea mining in international waters is the Mining Code, a set of regulations—still under development by the International Seabed Authority (ISA)—that will dictate the future of the deep sea.

As an independent branch of the United Nations that has jurisdiction over the ocean floor in international waters, the ISA is mandated to regulate the seabed as a common heritage of humankind. With deep-sea mining, the ISA is charged with both encouraging the industry's development and regulating how it will work. The Mining Code includes exploration regulations for gathering baseline environmental data, and exploitation regulations—still in draft form—for commercial mining in the international seabed area.

"The ISA is developing regulations for the ability to manage and make decisions about an area that's over 50 percent of the Earth," says Kathryn Mengerink, a marine biologist and lawyer at the Waitt Institute, a nonprofit based in San Diego, California. "The power in those decisions is enormous."

To date, the ISA has already issued exploration regulations and granted licenses for exploration to 22 contractors (a mix of governments, state-owned companies, and private corporations), giving them permission to scour the seabed for polymetallic nodules and collect baseline environmental data.

When, where, and how contractors will be able to start extracting the minerals is the focus of the new exploitation regulations.

The exploitation regulations were supposed to be finalized in 2020. However, the pandemic has slowed the process considerably. Yet a clause under the UN Convention on the Law of the Sea could force the ISA to finalize the code in two years—either fast-tracking the exploitation regulations, or giving contractors interested in seabed mining a license under the draft regulations. Commonly referred to as the “two-year rule,” the clause can only be triggered by the 167 countries or member states of the ISA, some of which sponsor mining companies and are called sponsoring states. To obtain a license to mine the seafloor, a company must be sponsored by a member state of the ISA.

The nascent deep-sea mining industry is asking for the exploitation regulations to be finalized soon. The Mining Code would offer “regulatory certainty” for mining operations, says Christopher Williams, the managing director of UK Seabed Resources, a contractor and subsidiary of Lockheed Martin that holds exploration licenses.

“The Mining Code is absolutely fundamental,” says Williams. “Without it, we cannot go out and do any commercial-scale collection of polymetallic nodules.”

The Metals Company, a mining company formerly known as DeepGreen and based in Vancouver, British Columbia, had suggested last year that it could trigger the two-year rule to finalize the regulations. The company recently backtracked from this position. The Metals Company holds exploration licenses in the Clarion-Clipperton Zone in the Pacific Ocean, sponsored by Tonga, Nauru, and Kiribati.

“The discussion around the two-year trigger does come up periodically with our sponsoring states because they are supportive of seeing this industry developed,” says Corey McLachlan, head of stakeholder engagement at the Metals Company. “At this point, we don’t have any insight into the potential use or timing of a two-year trigger.”

But others think that there isn’t enough information about the impacts of mining in the deep sea to even allow for effective regulation of the industry. Conservation groups such as Conservation International and the World Wildlife Fund for Nature have called for a 10-year moratorium on deep-sea mining and the adoption of the Mining Code’s exploitation regulations to allow for more time to understand the risks associated with deep-sea mining. “We’ve got a massive lack of scientific knowledge and understanding of the technology that will be used,” says Duncan Currie, a legal advisor to the Deep-Sea Conservation Coalition, a group of NGOs that supports the moratorium.

“There simply just isn’t enough information to make an informed decision and to be able to draft the kind of regulations that are needed.” Though scientists are studying how extracting polymetallic nodules will affect the animals that live on them and in the surrounding sediment, there is a huge amount of uncertainty about the cumulative environmental effects of deep-sea mining. Life in the deep sea is “more diverse than you would think,” says Cindy Van Dover, a deep-sea biologist at Duke University in North Carolina. Researchers have found certain species of sponges and mollusks that are unique to the surfaces of nodules. The nodules can take a millennia to form, and there are higher densities of animals living on or near nodules compared with nodule-free parts of the ocean floor. Sediment plumes from mining vehicles could also potentially impact habitats beyond the seafloor.

Conservation groups are concerned about the process for drafting the regulations. Some scientists argue that there is an inherent contradiction in the ISA’s dual role of ensuring the protection of the marine environment and governing the exploitation of seafloor mineral resources. Then, within the ISA, the people actually holding the pen on the successive drafts of the exploitation regulations are the members of the Legal and Technical Commission, a limited body of 30 representatives from ISA member states. “The Legal and Technical Commission is a body that meets behind closed doors, but they are discussing matters that are in the broad public interest,” says Currie. “This is information that’s not meant to be kept secret if it’s necessary for the protection of the marine environment under the law of the sea convention.”

Mining companies suggest that the ISA has an engagement process that allows for feedback on the regulations. “The regulations are open to comment from interested stakeholders through multiple iterations and drafts,” says McLachlan. “It’s a very open and transparent way of developing a regulatory regime.”

But many NGOs, such as the Pew Charitable Trusts, are calling for more transparency in the decision-making process. Recently, the ISA has conducted technical workshops, and solicited feedback from member states, the scientific community, industry, and observers on standards and guidelines that will be part of the Mining Code.

“Our view is that this is a positive development, with more opportunities for stakeholder involvement, and a venue in which observers can provide inputs,” says Andrew Friedman, associate manager of the seabed mining project at the Pew Charitable Trusts, which holds observer status at the ISA and has supported the calls for a moratorium. “At present, the draft regulations are available to various stakeholders for comment, but the ISA has not yet taken up the responsibility to address and respond to these comments.”

Despite all the critiques, experts agree that the Mining Code is an unusual legislation aimed at regulating seabed mining before it starts, a preemptive move uncommon for industries with an impact on the environment, particularly those that extract minerals from the earth. Offshore drilling for oil was lightly regulated until the Deepwater Horizon spill in the Gulf of Mexico spurred stronger regulations in the United States, for instance, while international regulations for the whaling industry only came into play after several species were almost extinct.

Williams agrees that it is a unique opportunity “to come up with a regulatory regime that’s in place, monitored properly, and accountable to the whole global community before an industry even starts.”

“This is a chance to get it right,” adds Friedman. “We can control an activity before it gets underway.

“If we get this wrong, it will be a tragedy.”

18.2. Letter CRIRSCO January 2022 (Pat Stephenson)

10 January 2022

Mr Pat Stephenson

#301-1490 Pennyfarthing Drive

Vancouver BC V6J 4Z3

By email: pstephenson2018@outlook.com

Dear Pat,

RE: CRIRSCO Observer status at International Seabed Authority

Thank you for your continuing interest in CRIRSCO's role as a non-governmental organization (NGO) Observer at the International Seabed Authority (ISA). CRIRSCO's continued representation at the ISA has been agreed by the CRIRSCO Executive and confirmed at the recent AGM.

Continued CRIRSCO participation as an active ISA NGO Observer fits with CRIRSCO's strategies of:

1. Providing reporting leadership
2. Expanding membership and use of CRIRSCO compatible standards
3. Developing strategic relationships
4. Supporting greater recognition and reciprocity.

We note that Observers are allowed to participate in the work of the Assembly and the Council, under their Rules within certain limitations. We also note that there is a programme of meetings for 2022 published on the ISA website at <https://isa.org.tm/sessions/27th-session-2022>. CRIRSCO requests you to continue to act as CRIRSCO's representative in its role as an ISA Observer.

Your earlier experience attending ISA meetings as CRIRSCO representative is acknowledged, as is your involvement with the late Dr Caitlyn Antrim during the October 2014 international workshop on polymetallic nodule resource classification in Goa, India, in the preparation of a draft template to provide guidance for the estimation and reporting of mineral resources and reserves as per

international reporting standards. We also note that meeting recommended “potential cooperation with the (Committee for Mineral Reserves International Reporting Standards) CRIRSCO's work”.

In this regard CRIRSCO wish that you provide input to items relevant to reporting of exploration results, resources, and reserves and the furtherance of CRIRSCO's strategy. CRIRSCO will provide financial support for attendance at ISA meetings if its agenda includes relevant items and would request your advice on the desirability to attend prior to attendance. In addition, it would seem prudent for CRIRSCO to request you to provide advice and development to another nominated CRIRSCO representative which I assume will be drawn from the Americas.

Your ongoing CRIRSCO contact should initially be with me until we appoint a second representative.

We hope this arrangement is satisfactory and look forward to your active involvement, in the first instance during 2022.

Yours sincerely,

A handwritten signature in black ink, appearing to read "Edson Ribeiro".

Edson Ribeiro
Chairperson CRIRSCO

18.3. Letter CRIRSCO March 2022 (Michael W. Lodge)

Michael W. Lodge
Secretary-General, ISA
International Seabed Authority
14 - 20 Port Royal Street, Kingston, Jamaica

March 7, 2022

Dear Mr. Lodge,

The Committee for Mineral Reserves International Reporting Standards (CRIRSCO) has had the honour of being a recognized Observer to the Assembly of the International Seabed Authority (ISA) since July 2014. From 2014 to late 2019, CRIRSCO's delegate to the ISA was Dr Harry Parker. Sadly, Dr Parker passed away in December 2019. Since that time, past Co-Chair of CRIRSCO, Mr. Patrick (Pat) Stephenson has been CRIRSCO's informal delegate and represented the organization at the 25th session of the ISA in Kingston, Jamaica, from 25 February to 1 March 2019.

This letter is to advise of Mr. Stephenson's formal appointment as its delegate to represent CRIRSCO in dealings with ISA. His contact details appear at the end of this letter. Mr. Stephenson will be assisted by CRIRSCO's Secretary, Mr. Wilfredo Lopez. Mr. Stephenson has already played a key role in one of ISA's core activities. In October 2014, he, with Dr Caitlyn Antrim, Executive Director, Rule of Law Committee for Oceans, USA⁸, attended a workshop convened by the ISA in collaboration with the Ministry of Earth Sciences of India, on the "Classification of Polymetallic Nodule Resources", held in Goa, India. At the workshop, Mr. Stephenson and Dr Antrim spearheaded development of a draft of the "International Seabed Authority Reporting Standard for Reporting of Exploration Results, Mineral Resources and Mineral Reserves", based on CRIRSCO's International Reporting Template, November 2013 edition. A modified version of the draft entitled "Reporting Standard of the International Seabed Authority for Mineral Exploration Results Assessments, Mineral Resources and Mineral Reserves" was adopted by ISA with effect from 1 January 2016. It forms Annex V to ISA Legal and Technical Commission report number ISBA/21/LTC/15 dated 4 August 2015.

⁸ Unfortunately, Dr Antrim, who had worked with Dr Parker on ISA-related issues, including occasionally representing CRIRSCO at ISA meetings, passed away in July 2018.

I also take this opportunity to attach a document submitted to ISA by Mr. Stephenson at the 25th Session of ISA Council in March 2019 (Attachment 1). Since that time, CRIRSCO's International Reporting Template, on which ISA's Resource/Reserve reporting standard is based, has further evolved, reinforcing the desirability of updating the ISA's standard. As advised in our March 2029 submission, we would be pleased to take the lead in this process and submit a draft proposed modifications for ISA's consideration.

Your sincerely,

A handwritten signature in black ink, appearing to read "Edson Ribeiro".

Edson Ribeiro
Chairperson CRIRSCO

CC: Mr. P Stephenson. Email pstephenson2018@outlook.com Phone +1 778 987 0044

CC: Mr. W. Lopez. Email wilo.piedrahita@gmail.com

Attachment 1. Submission from CRIRSCO to 25th Session of ISA Council 1 March 2019.

Submission from Committee for Mineral Reserves International Reporting Standards (CRIRSCO) to the 25th Session of the Council of the International Seabed Authority, held in Kingston Jamaica, from 25 February to 1 March 2019

Submitted by P R Stephenson, P.Geo, who attended as an Observer on behalf of CRIRSCO.

1 March 2019

1. Thank you Madame President. I have the honour to represent the Committee for Mineral Reserves International Reporting Standards, better known by its acronym, CRIRSCO. Since this is the first time that CRIRSCO has spoken at this meeting, I would like to add its voice to those of other distinguished representatives in congratulating you on your election to the position of President of the 25th Session of the Council.
2. I would also, on behalf of CRIRSCO, like to record its deep sadness on the death last year of Dr Caitlyn Antrim. Caitlyn made major contributions to the multinational negotiations that led to the establishment of the United Nations Convention on the Law of the Sea, and was also CRIRSCO's main link to the ISA. More than that, she was a wonderful person and great friend. She is deeply missed.
3. CRIRSCO has had Observer status with this Council since 2014. Its most active contribution to date to the operations of the Authority has been at a workshop held in Goa, India, in 2014, convened by the ISA in collaboration with the Ministry of Earth Sciences of India, on the development of an ISA Mineral Resource / Mineral Reserve reporting standard covering polymetallic nodules. This resulted in the adoption by the Authority, with effect from 1 January 2016, of a document entitled "Reporting standard of the International Seabed Authority for mineral exploration results assessments, mineral resources and mineral reserves". It forms Annexure V to document ISBA/21/LTC/15 entitled "Recommendations for the guidance of contractors on the content, format and structure of annual reports", and is based on the November 2013 edition of the "International Reporting Template of the Committee for Mineral Reserves International Reporting Standards". It should be noted that the standard covers all relevant mineral deposit types, and is not restricted to polymetallic nodules.
4. CRIRSCO would respectfully suggest that the Council consider amending the ISA reporting standard referred to above in order to:
 - a. Include the principle of Competence, consistent with the CRIRSCO International Template and with all national Mineral Resource / Mineral Reserve reporting standards that are consistent with the Template, and taking due cognizance of the discussions on that topic that took place in Goa in 2014, and:
 - b. Include, for the additional guidance of Contractors, clauses covering matters specific to the reporting of:
 - i. Polymetallic nodules
 - ii. Polymetallic sulphides
 - iii. Ferromanganese crusts.
5. CRIRSCO would be pleased to provide a first draft of such amendments if requested.
6. With respect to the discussions in earlier sessions of this meeting on draft financial model(s) for the exploitation of seabed mineral deposits, as outlined in ISA document ISBA/25/C/CRP.1/Rev.1, CRIRSCO respectfully suggests that the basis for any and all such models should be Mineral Resources and (if present) Mineral Reserves as defined in Annexure V to "Recommendations for the guidance of contractors on the content, format and structure of annual reports (ISBA/21/LTC/15)".

Copies to: Mr N Wells, Chair, CRIRSCO
Dr H Parker, Member and past-Chair, CRIRSCO

Figure 24: Submission from CRIRSCO to 25th Session of ISA Council 1 March 2019.

18.4. ISA Press Release



PRESS RELEASE
14 March 2022

ISA Legal and Technical Commission opens its 27th session

The Legal and Technical Commission (LTC) of the International Seabed Authority (ISA) opened the meetings of the first part of its 27th session, taking place virtually between 14 and 18 March 2022.

Mr. Harald Brekke (Norway) was re-elected as Chair of the LTC for the 27th session, and Mr. Thembile Joyini (South Africa) was re-elected as Vice-Chair.

During the week, the members of the LTC will consider the application for the extension of an exploration contract submitted by the government of India. They will also begin consideration of an application for approval of a plan of work for exploration submitted by Circular Metals Tuvalu Ltd.

The LTC will also start to consider the development of a regional environmental management plan for the area of northern Mid-Atlantic Ridge and continue its consideration of the environmental impact statement submitted by Nauru Ocean Resources Inc.

In his opening remarks, ISA Secretary-General, Mr. Michael W. Lodge, commended the LTC members for their commitment and significant support in progressing work assigned by the Council, particularly the development of phase-one draft standards and guidelines, which will be considered by the ISA Council at its meetings between 21 March and 1 April 2022.

“This week provides an opportunity to progress on important issues ahead of the meeting of the Council, and we trust that the LTC will demonstrate its adaptability and resilience in addressing the tasks put forward to it once again,” he said.

The LTC is a body of experts nominated by ISA Member States and elected by the ISA Council to serve in their individual capacity. The current LTC consists of 30 members. Its next meetings are in July 2022 for the second part of the 27th session of ISA.

For media enquiries, please contact:

Ms. Stefanie Neno, Communications Specialist, ISA, snen@isa.org.jm

18.5. Secretary – General Annual Report 2022 ISA

The Secretary-General Annual Report is presented in two parts that should be read together. A first part (**ISBA/27/A/2**) has been published as an official document of the Assembly and reports on the status of UNCLOS and related legal instruments, the status of contributions to the budget of ISA and the status of the Area. The report also summarizes the outcomes of the previous session of ISA. This first part also contains a review of the status of implementation of ISA Strategic Plan 2019-2023, its related performance indicators and the status of the high-level actions and associated outputs assigned to the secretariat under the ISA High-Level Action Plan, adopted by the Assembly in 2019.

The second part of this report has been issued in a graphical format and is subtitled "**Ensuring the sustainable management and stewardship of the deep seabed and its resources for the benefit of humankind**". It documents all the activities of ISA between July 2021 and June 2022. The graphical report will be available in the working languages of the Authority: English and French.

Both ISBA/27/A/2 and the graphical report are accessible at <http://bit.ly/ISA-AR-2022>.