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SAUDI MINING SERVICES CO.

Minimum Requirements for Exploration Work for High-Grade Silica Sand

2025/01/20

AGENDA

- Introduction – High-Grade Silica Sand and some of its industrial applications
- General information and basic data
- Exploration work
- Sampling and laboratory analyses
- Final exploration report

Introduction – High-Grade Silica Sand and Its Industrial Applications

High-Grade Silica Sand (>95%) is classified as a Class (B) mineral according to the executive regulations of the Mining Investment Law. Silica, also known as silicon dioxide (SiO), is a non-metallic element composed of a combination of oxygen and silicon particles.

High-Grade Silica Sand is considered one of the essential raw materials supporting industrial development worldwide, due to its use as a primary or secondary component in many important industries. Each industry has specific requirements that must be met in silica sand for it to be usable, for example, particle size, silica concentration, impurity levels, and other criteria.

Some industrial uses of high-grade silica:

- Glass: solar glass, flat glass, and fiberglass
- Specialized silica: Sodium silicate (detergents and adhesives), Precipitated silica (car tires, personal care products), and Zeolites (detergents)
- Silicon carbide (refractory bricks)

General Information and Basic Data

License purpose and objectives: Define the purpose of obtaining the license and future prospects based on the available geological details.

Data Source: If the application is outside silica mining complexes approved by ministry, the applicant must specify the data source used to target silica ore at the site (e.g., the National Geological Database “NGD”, prior work, or studies).

Production description: Identify the targeted products from primary processing units and their specifications, including concentrations, impurities, and the intended industries.

Type of investment: Specify the type of final product and describe the processing method at the industry. Clarify whether there is a plan to establish an industry to transform the ore into a final industrial product, including confirmed products and the processing method.

Type of funding: Identify the funding sources for exploration work (self-funded, loans, or other sources).

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Technical Requirements for Obtaining Exploration Licenses for High-Grade Silica Sand

Exploration Work

Topographic Survey:

Conduct a topographic survey within the license area with a maximum grid of 10 × 10 meters. Highlight any previous exploitation or excavation activities and estimate the volume and quantity previously extracted.

Geological Maps:

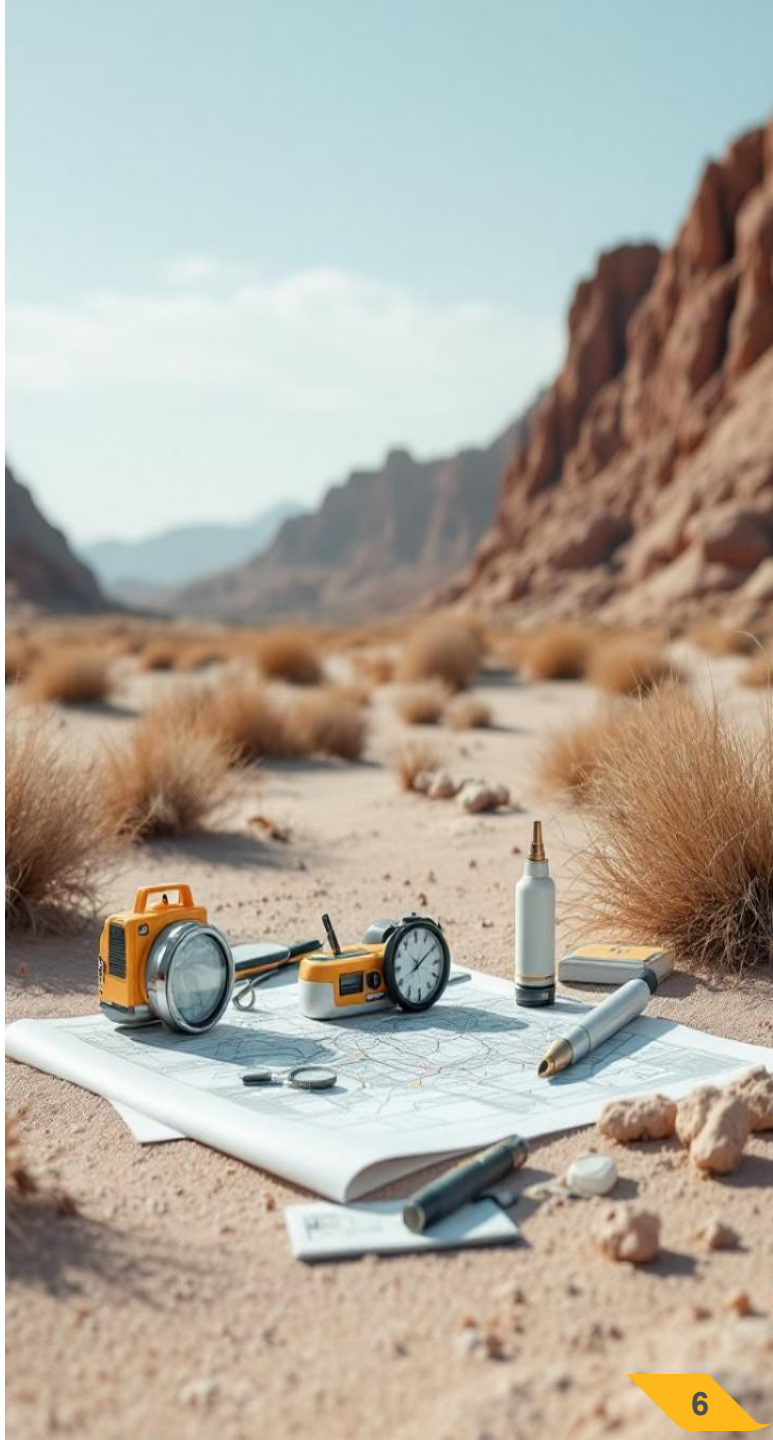
Provide an updated geological map of the license with at least two cross-sections, using a 1:10,000 scale. The map must show ore boundaries and its characteristics.

Drilling:

- For surface drilling, If needed, use specialized drilling equipment such as vacuum drilling for loose sandy materials.
- For deep drilling:
  - Use Reverse Circulation (RC) drilling or Air Core (AC) drilling.
  - Drill to a minimum depth of 30 meters or until the end of the ore.
  - It is recommended to use a staggered pattern, with a maximum spacing of 300 meters between drill holes, with at least one drill hole per 90,000 m^2

Geotechnical Drilling:

Ensure at least 7 geotechnical drill holes per square kilometer, with depths 20% deeper than the proposed mine depth.



Sampling and Laboratory Analyses

Sample Recovery:

Sample recovery must be measured for every drilling run, with a recovery rate of no less than 90%.

Procedure for Sampling and Separation:

For RC drilling, sample splitting must use a cyclone–rotary split or cyclone–riffle split. As for core samples from air-core drilling, samples must be split using an electric core saw into two identical halves. At minimum, one sample must be taken for every one meter of drilling.

Sample Description:

Perform geological logging and return all samples to their respective sample boxes.

Quality Control Samples:

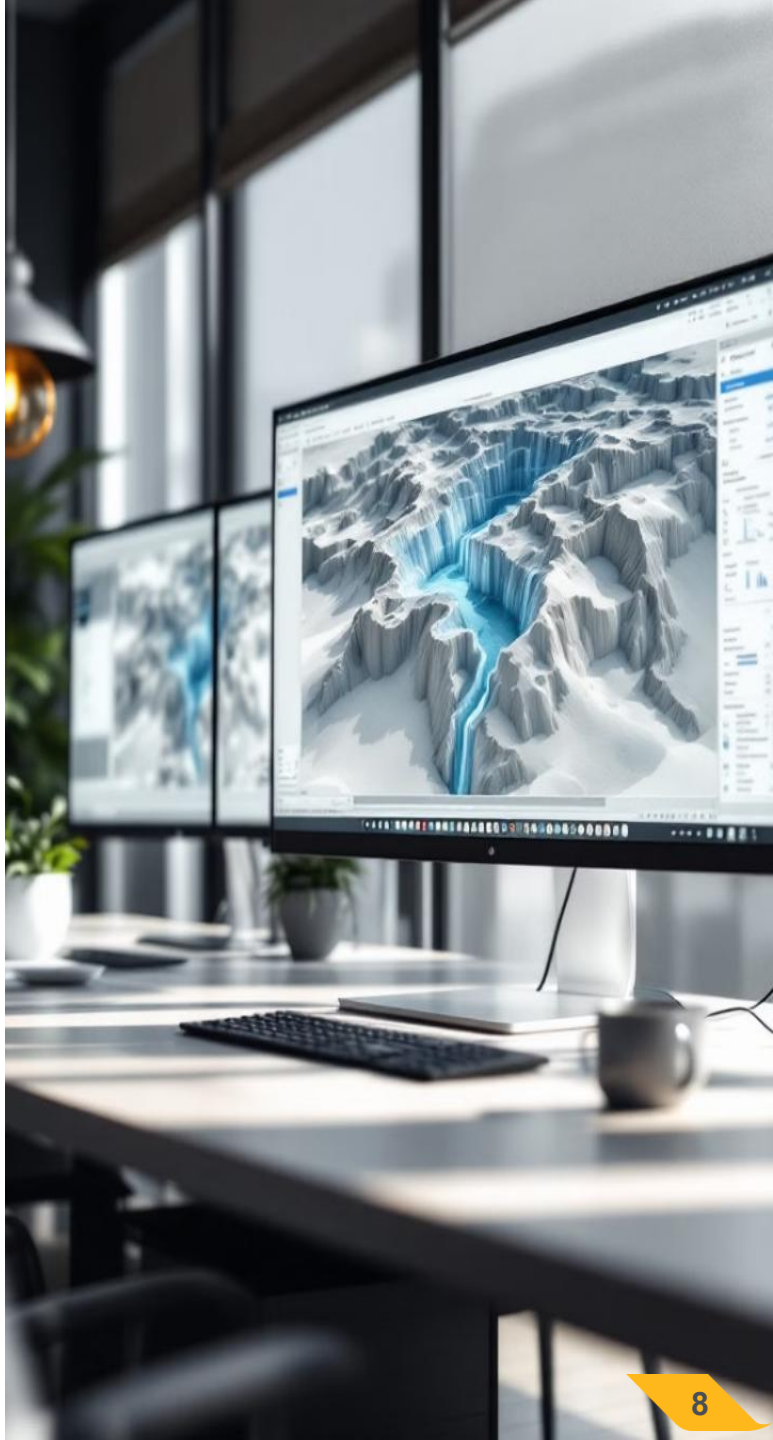
Provide a quality control (QC) plan to ensure the validity and acceptance of laboratory results. Each batch of 30 samples or fewer must include one field processed sample and one certified reference material (CRM)

Laboratory Analyses:

Conduct physical tests and chemical analyses such as major oxide analysis.

Final Exploration Report

Assessment of Primary Processing Technology:	Provide a list of available competitive technologies and compare them, considering local operational and maintenance capabilities.
Product Description and Specifications:	Describe the confirmed product and associated minerals (target particle sizes, silica concentration, impurity levels).
Data Interpretation and Modeling Plan:	Provide a full technical explanation of data quality used in the study and construct the 3D geological model.
Exploration Results:	Comply with internationally recognized reporting standards such as JORC, SAMREC, etc. Ensure all required drilling has been completed (reducing drill spacing) to achieve acceptable mineral resources classified as Measured or Indicated, enabling their conversion into Ore Reserves for submission during future mining license applications.
Photographs:	Provide photographs of drilling equipment, sampling equipment, collected samples, and the storage area.



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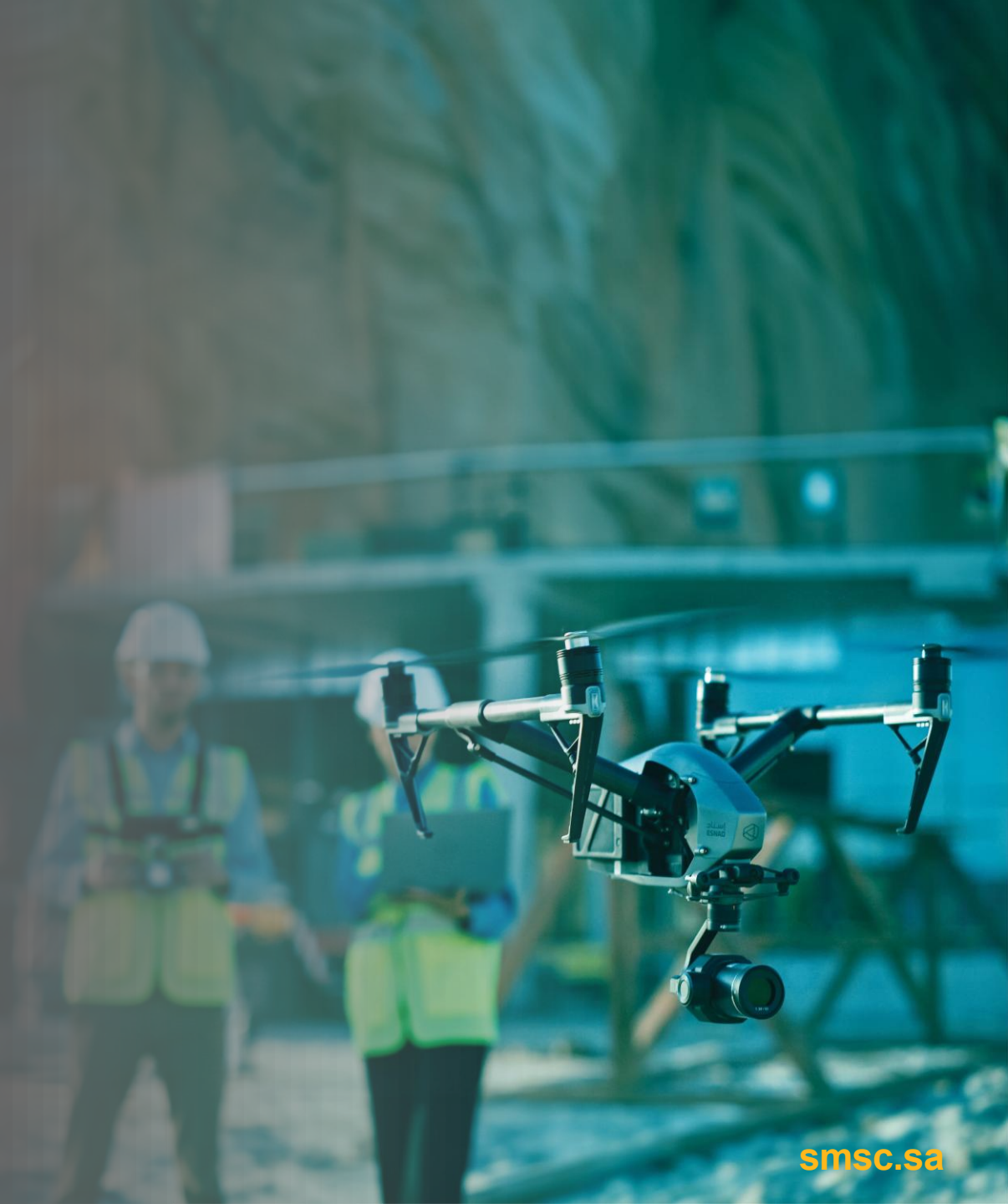

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