Drilling history of Greenland

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Abstract

The present review is a follow-up on recent papers on the mineral and petroleum exploration history of Greenland (Christiansen 2021, 2022). It provides a first overview of all drilling activities – for mineral and petroleum exploration, and for science − in Greenland through history with the oldest preserved core from 1948 (Christiansen et al., manuscript). Results from drilling and access to preserved material are important for future research and resource exploration. Almost all drilling projects have been documented with details on companies/operators, targets, commodities, deposits, regions, year, depth ranges, numbers, and cumulative depths together with key references.

For mineral exploration drilling, the key numbers are: 1000 km, 264 projects, and ~7000 holes. For petroleum exploration drilling, the key numbers are 58 km, 10 projects, and 39 holes. For onshore scientific drilling, the key numbers are 12.5 km, 22 projects, and 105 holes. For offshore scientific drilling, the key numbers were 10 km, 6 projects, and 35 holes.

The level of mineral drilling activities has varied significantly over time. The main activities have been in relation to specific mines and deposits to outline and document resources. Approximately 50 companies have reached a drilling phase in their exploration, and these are listed together with a ranked list of drilling on specific deposits. Most drilling was carried out by Canadian, followed by Danish/Greenlandic, Australian, and UK-based companies. The petroleum drilling was the outcome of specific licensing rounds, in some short periods with a high activity level, now completely stopped. The scientific drilling has changed due to various strategies and agendas from academia, authorities and other sponsors.

Compared with other countries like Norway, Sweden, UK, and Denmark, the number of drill holes is limited. Greenland has experienced long periods with low activity without or only with a few mines making it difficult to establish and maintain a permanent service industry. The cores and results from previous drilling have a high value and should be preserved for future research, exploration, and other future activities. Compared to other countries Greenland has a big task to develop and maintain a drill core database and make core material available for new users.

References

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