Genese van gigantische lithium pegmatieten: De petrogenetische evolutie van de Manono-Kitotolo Lithium-Cesium-Tantaal Pegmatieten, Democratische Republiek Congo (GELIPEG)

Research Data Summary

List and describe all datasets or research materials that you plan to generate/collect or reuse during your research project. For each dataset or data type (observational, experimental etc.), provide a short name & description (sufficient for yourself to know what data it is about), indicate whether the data are newly generated/collected or reused, digital or physical, also indicate the type of the data (the kind of content), its technical format (file extension), and an estimate of the upper limit of the volume of the data.

Dataset name / ID	Description	New or reuse	Digital or Physical data	Data Type	File format	Data volume	Physical volume
		*Indicate: **N**(ew data) or **E**(xisting data)*	Indicate: **D**(igital) or **P**(hysical)	Indicate: **A**udiovisual **I**mages **S**ound **N**umerical **T**extual **M**odel **SO**ftware Other (specify)		Indicate: <1GB <100GB <1TB <5TB >5TB NA	
Rock samples 1	Samples collected by the researcher in 2022	☒ Generate new data ☐ Reuse existing data	P	NA			40 kg Rock
Drill core samples 2	Samples provided by the exploration company AVZ in 2023	☒ Generate new data ☐ Reuse existing data	P	NA			30 kg Rock
Rock samples 3	Samples borrowed from the RMCA collections	☐ Generate new data ☒ Reuse existing data	P				10 kg Rock
Digital data	Photographs, maps, experimental data	New data	D	audiovisual images numerical textual observational experimental	☐ .por ☐ .xml ☐ .tab ☒ .csv ☒ .pdf ☒ .txt ☐ .rtf ☐ .dwg ☐ .tab ☐ .gml ☒ other: .jpg, .png, .tiff, ASCII ☐ NA	☒ < 5 TB	
Derivatives of processed sample material	Thin sections, polished sections, crushed material, mineral separates	New data	P	NA			200-300 subsamples (thin sections, thick sections, mounts, powders)

If you reuse existing data, please specify the source, preferably by using a persistent identifier (e.g. DOI, Handle, URL etc.) per dataset or data type:

RMCA rock samples 3: Rock samples from the study area originating from the RMCA collections. Subsamples were made available for this project. These samples originate from historical field trips by geologists of the RMCA. Collection manager: Florias Mees
Rock samples 1 + 2: rock samples from the study area which are stored at KUL. These samples originate from a field trip in 2022, and were supplied by private company AVZ for the project in 2023. Storage manager: Herman Nijs.

Are there any ethical issues concerning the creation and/or use of the data (e.g. experiments on humans or animals, dual use)? If so, refer to specific datasets or data types when appropriate and provide the relevant ethical approval number.

- No

Will you process personal data? If so, please refer to specific datasets or data types when appropriate and provide the KU Leuven or UZ Leuven privacy register number (G or S number).

- No

Does your work have potential for commercial valorization (e.g. tech transfer, for example spin-offs, commercial exploitation, …)? If so, please comment per dataset or data type where appropriate.

- Yes

This study may be useful to assess the viability of LCT-type pegmatites deposits for the exploitation of lithium, tantalum, niobium and tin.

Do existing 3rd party agreements restrict exploitation or dissemination of the data you (re)use (e.g. Material or Data transfer agreements, Research collaboration agreements)? If so, please explain in the comment section to what data they relate and what restrictions are in place.

- No

Are there any other legal issues, such as intellectual property rights and ownership, to be managed related to the data you (re)use? If so, please explain in the comment section to what data they relate and which restrictions will be asserted.

- No

Documentation and Metadata

Clearly describe what approach will be followed to capture the accompanying information necessary to keep data understandable and usable, for yourself and others, now and in the future (e.g. in terms of documentation levels and types required, procedures used, Electronic Lab Notebooks, README.txt files, codebook.tsv etc. where this information is recorded).

All rock samples related data is described in an Access file managed by the collection manager Herman Nijs. Each rock sample has a unique identification tag which connects the sample to the right information in the Access file. All files are stored in a folder which is both on the reseacher's hard disk drive (laptop), with a back up to the KU Leuven J-drive. The PhD candidate works in his personal Onedrive folder, and uploads datasets to PI's Borst's shared research folder on One Drive, and a back up to the shared network J-drive. The folder is called "C1_2023_Gelipeg" and contains various subfolders which have clear names dedicated to the content. For example subfolders containing all documents related to fieldwork, literature, analysis, doctoral school, … In the main folder, a README.txt file is created to guide others, when necessarily, easily through all data folders.

Will a metadata standard be used to make it easier to find and reuse the data?
If so, please specify which metadata standard will be used.

If not, please specify which metadata will be created to make the data easier to find and reuse.

- Yes

Access will be used to describe rock sampes, data cite will be used for other data

Data Storage & Back-up during the Research Project

Where will the data be stored?

- Sharepoint online
- Shared network drive (J-drive)
- Personal network drive (I-drive)

How will the data be backed up?

- Standard back-up provided by KU Leuven ICTS for my storage solution

The Excel files with all the descriptive information and metadata of the samples will be uploaded to the KU Leuven Onedrive (1 TB), where it is directly accessible for KU Leuven employees or externals with permission. In addition, the personal disk space contains a personal space folder (I:) (50Gb) of the researcher, a shared folder (J:) for the geology division and an LVS (L:) folder where data can be stored. Furthermore, data is centralized, making the data accessible through the whole KU Leuven network. This data synchronizes with a back-up server. The data is thus protected for long term data storage.

Is there currently sufficient storage & backup capacity during the project?

If no or insufficient storage or backup capacities are available, explain how this will be taken care of.

- Yes

How will you ensure that the data are securely stored and not accessed or modified by unauthorized persons?

The sample storage rooms are locked through card access to the building and keys to the room/cupboards.
For all the online data, KU Leuven works with a 2-step verification in which only authorized personnel can access the data

What are the expected costs for data storage and backup during the research project? How will these costs be covered?

As a researcher at the KU Leuven, this is provided by the University without any extra costs.
The PI personally pays for a Dropbox account for file sharing and data storage/back up.

Data Preservation after the end of the Research Project

Which data will be retained for 10 years (or longer, in agreement with other retention policies that are applicable) after the end of the project?

In case some data cannot be preserved, clearly state the reasons for this (e.g. legal or contractual restrictions, storage/budget issues, institutional policies...).

- All data will be preserved for 10 years according to KU Leuven RDM policy

There will be no deviation from the principle of data preservation. All data will be preserved for at least the minimum preservation term of 10 years.

Where will these data be archived (stored and curated for the long-term)?

- KU Leuven RDR
- Shared network drive (J-drive)

After the project, the physical data is stored in the archives of the GEO-Institute (Celestijnenlaan 200E, 3001 Heverlee-Leuven). The digital data is stored using the Repository platform of the KU Leuven RDR

What are the expected costs for data preservation during the expected retention period? How will these costs be covered?

No extra costs

Data Sharing and Reuse

Will the data (or part of the data) be made available for reuse after/during the project?
Please explain per dataset or data type which data will be made available.

- Yes, as embargoed data (temporary restriction)
- Yes, as open data
- Yes, as restricted data (upon approval, or institutional access only)

All data used for outreach (publications, presentations, seminars, …) will be made available through LIRIAS pending potential embargo period. The rest of the data (all rock samples, digital data) will be made available for reuse upon approval.

If access is restricted, please specify who will be able to access the data and under what conditions.

Collaborators or co-authors will receive access to the (part of the) data as well as other third parties (private companies) upon approval of the PI.

Are there any factors that restrict or prevent the sharing of (some of) the data (e.g. as defined in an agreement with a 3rd party, legal restrictions)?

Please explain per dataset or data type where appropriate.

- No

Where will the data be made available?

If already known, please provide a repository per dataset or data type.

- KU Leuven RDR (Research Data Repository)

The rock samples are available in the storage room upon approval from the PI.

When will the data be made available?

- Upon publication of research results

Which data usage licenses are you going to provide?

If none, please explain why.

- CC-BY 4.0 (data)

DATA FROM THE PROJECT THAT CAN BE SHARED WILL BE MADE AVAILABLE UNDER A CREATIVE COMMONS ATTRIBUTION LICENSE (CC-BY 4.0), SO THAT USERS HAVE TO GIVE CREDIT TO THE ORIGINAL DATA CREATORS."

Do you intend to add a persistent identifier (PID) to your dataset(s), e.g. a DOI or accession number? If already available, please provide it here.

- Yes, a PID will be added upon deposit in a data repository

What are the expected costs for data sharing? How will these costs be covered?

no costs expected

Responsibilities

Who will manage data documentation and metadata during the research project?

Anouk Borst (PI)
Juan Sebastian Rodriguez Ardila (PHD)

Who will manage data storage and backup during the research project?

Anouk Borst (PI)

Juan Sebastian Rodriguez Ardila (PHD)

Who will manage data preservation and sharing?

Anouk Borst (PI)

Who will update and implement this DMP?

Anouk Borst (PI)