FWO DMP Template - Flemish Standard Data Management Plan

Project supervisors (from application round 2018 onwards) and fellows (from application round 2020 onwards) will, upon being awarded their project or fellowship, be invited to develop their answers to the data management related questions into a DMP. The FWO expects a **completed DMP no later than 6 months after the official start date** of the project or fellowship. The DMP should not be submitted to FWO but to the research co-ordination office of the host institute; FWO may request the DMP in a random check.

At the end of the project, the **final version of the DMP** has to be added to the final report of the project; this should be submitted to FWO by the supervisor-spokesperson through FWO's e-portal. This DMP may of course have been updated since its first version. The DMP is an element in the final evaluation of the project by the relevant expert panel. Both the DMP submitted within the first 6 months after the start date and the final DMP may use this template.

The DMP template used by the Research Foundation Flanders (FWO) corresponds with the Flemish Standard Data Management Plan. This Flemish Standard DMP was developed by the Flemish Research Data Network (FRDN) Task Force DMP which comprises representatives of all Flemish funders and research institutions. This is a standardized DMP template based on the previous FWO template that contains the core requirements for data management planning. To increase understanding and facilitate completion of the DMP, a standardized **glossary** of definitions and abbreviations is available via the following link.

1. General Project Information	
Name Grant Holder & ORCID	Jolan Acke 0000-0003-4825-9233
Contributor name(s) (+ ORCID) & roles	Anouk Borst (Supervisor) 0000-0003-0775-1491 Stijn Dewaele (Co-supervisor) 0000-0002-8805-6986
Project number[1] & title	The mineralisation cycle of lithium and other critical metals in Central African rare metal pegmatites. A story of concentration, recrystallisation and weathering
Funder(s) GrantID[2]	11PDY24N
Affiliation(s)	☑ KU Leuven ☐ Universiteit Antwerpen ☑ Universiteit Gent ☐ Universiteit Hasselt ☐ Vrije Universiteit Brussel ☐ Other: Provide ROR[3] identifier when possible:
Please provide a short project description	This project focuses on the concentration and distribution of lithium, tantalum, niobium and tin in granitic pegmatites. Although these metals are in increasing demand to supply the energy transition, there are still a lot of constraints on the genesis of the metal-rich minerals in granitic pegmatites. After pegmatite emplacement, these minerals are affected by several processes such as hydrothermal alteration, deformation and weathering. These processes are studied in this project with petrographic and cathodoluminescent microscopy, elemental and whole rock geochemistry and by means of a fluid inclusion study.

[1] "Project number" refers to the institutional project number. This question is optional since not every institution has an internal project number different from the GrantID. Applicants can only provide one project number.

[2] Funder(s) GrantID refers to the number of the DMP at the funder(s), here one can specify multiple GrantIDs if multiple funding sources were used.

[3] Research Organization Registry Community. https://ror.org/

2. 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[4].

				Only for digital data	*Only for digital data*	*Only for digital data*	*Only for physical data*
Dataset Name	Description	New or Reused	Digital or Physical	Digital Data Type	Digital Data Format	Digital Data Volume (MB, GB, TB)	Physical Volume
Rock samples 1	Samples collected by the researcher during fieldwork in February 2022	☒ Generate new data ☐ Reuse existing data	☐ Digital ☒ Physical	☒ NA	☒ NA	☒ NA	75 Kg rock 200 samples (thin sections, thick sections, core sections, powders)
Rock samples 2	Samples from the collection of the RMCA	☐ Generate new data ☒ Reuse existing data	☐ Digital ☒ Physical	☒ NA	☒ NA	☒ NA	40 Kg 50 samples
Rock samples 3	Samples from previous fieldwork done by researchers from the KUL	☐ Generate new data ☒ Reuse existing data	☐ Digital ☒ Physical	☒ NA	☒ NA	☒ NA	30 Kg 20 samples
All digital data	Photographs, maps, experimental	☒ Generate new data ☐ Reuse existing	☒ Digital ☐ Physical	☒ Observational ☒ Experimental ☒ Compiled/	☐ .por ☐ .xml ☐ .tab	☐ < 100 MB ☐ < 1 GB ☐ < 100 GB	

[4]

	data	data		aggregated data ☐ Simulation data ☒ Software ☐ Other ☐ NA	☒ .csv ☒ .pdf ☒ .txt ☐ .rtf ☐ .dwg ☐ .tab ☐ .gml ☒ other: .jpg, .png, .tiff, ASCII ☐ NA	☒ < 1 TB ☐ < 5 TB ☐ < 10 TB ☐ < 50 TB ☐ > 50 TB ☐ NA	

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.	Rock samples 2: rock samples from the study area which are stored at the RMCA. These samples originate from historical field trips by geologists of the RMCA. Storage manager: Florias Mees Rock samples 3: rock samples from the study area which are stored at the KUL. These samples originate from field trips in 2015 and 2018 by KUL reseachers. 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, please describe these issues further and refer to specific datasets or data types when appropriate.	☐ Yes, human subject data ☐ Yes, animal data ☐ Yes, dual use ☒ No If yes, please describe:

Will you process personal data[5]? If so, briefly describe the kind of personal data you will use. Please refer to specific datasets or data types when appropriate. If available, add the reference to your file in your host institution's privacy register.	☐ Yes ☒ No If yes: - Short description of the kind of personal data that will be used: - Privacy Registry Reference:
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 ☐ No If yes, please comment: 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/Data transfer agreements, research collaboration agreements)? If so, please explain to what data they relate and what restrictions are in place.	☐ Yes ☒ No If yes, please explain:
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 to what data they relate and which restrictions will be asserted.	☐ Yes ☒ No If yes, please explain:

[5] See Glossary Flemish Standard Data Management Plan

3. 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. 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) and on onedrive. The folder is called "PhD" 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. *Repositories could ask to deliver metadata in a certain format, with specified ontologies and vocabularies, i.e. standard lists with unique identifiers.*	☒ Yes ☐ No If yes, please specify (where appropriate per dataset or data type) which metadata standard will be used: Access will be used to describe rock sampes, data cite will be used for the other data. If no, please specify (where appropriate per dataset or data type) which metadata will be created:

4. Data Storage & Back-up during the Research Project

Where will the data be stored?	Sample storage for the rock samples is available at the KU Leuven GEO-Institute. After the project, samples are stored in the GEO-Institute's designated archives where they are kept for at least 5 years. After the research project, Herman Nijs is responsible for the storage of rock samples. Non-digital data (books, fieldbooks, notes, …) are stored in office 02.217 In the Geo-Institute during the research project.
How will the data be backed up?	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 yes, specify concisely. If no or insufficient storage or backup capacities are available, then explain how this will be taken care of.	☒ Yes ☐ No If yes, please specify concisely: Explained above If no, please specify:
How will you ensure that the data are securely stored and not accessed or modified by unauthorized persons? *Clearly describe the measures (in terms of physical security, network security, and security of computer systems and files) that will be taken to ensure that stored and transferred data are safe.* [7]	The sample storage rooms are locked 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.

5. Data Preservation after the end of the Research Project	
Which data will be retained for at least five 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...).	There will be no deviation from the principle of data preservation. All data will be preserved for at least the minimum preservation term of 5 years.
Where will these data be archived (stored and curated for the long-term)?	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.
What are the expected costs for data preservation during the expected retention period? How will these costs be covered?	There are no extra costs.

6. 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, in an Open Access repository ☒ Yes, in a restricted access repository (after approval, institutional access only, …) ☐ No (closed access) ☐ Other, please specify: All data used for outreach (publications, presentations, seminars, …) will be open available. The rest of the data (all rock samples, digital data) will be made available for reuse with approval.
If access is restricted, please specify who will be able to access the data and under what conditions.	One of the supervisors (Anouk Borst and Stijn Dewaele) will be able to give access to the data to third parties upon approval of the researcher or the supervisor.
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.	☐ Yes, privacy aspects ☐ Yes, intellectual property rights ☐ Yes, ethical aspects ☐ Yes, aspects of dual use ☐ Yes, other ☒ No If yes, please specify:
Where will the data be made available? If already known, please provide a repository per dataset or data type.	The Repository platform of the KU Leuven for all digital data. The rock samples are available in the storage room upon approval.

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.	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 PID/DOI/accession number to your dataset(s)? If already available, please provide it here.	☒ Yes ☐ No If yes: Not yet available
What are the expected costs for data sharing? How will these costs be covered?	No extra expected costs

7. Responsibilities	
Who will manage data documentation and metadata during the research project?	**Jolan Acke**
Who will manage data storage and backup during the research project?	**Jolan Acke**
Who will manage data preservation and sharing?	**Jolan Acke**
Who will update and implement this DMP?	**Jolan Acke**