

Interactive comment on “P³ – PetroPhysical Property Database – a global compilation of lab measured rock properties” by Kristian Bär et al.

Anonymous Referee #1

Received and published: 17 March 2020

Bär et al. have curated an excellent database that is of high value to the scientific community. The database structure is well organised, thorough, and I commend the authors for the attention to detail and retention of a large amount of information from the original sources, which is often difficult to organize and standardize when dealing with such varied data formats. The manuscript is well written and extensive in its description of the methods and organisation.

A couple of clarifications/amendments that are required:

- Line 28, page 8: "The petrographic classification of a sample in P3 is based on the sample description within the original literature reference" - can this be clarified a bit more? Sometimes the recorded petrographic term is vague but their

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classifications vary. For example, petrographic terms of "?" or "Sediment" exist, but these have rock classification ranks ranging from 2 up to 6. Is there any original comments for these types of samples preserved from the original publication? What was the information you used to determine these varied classifications beyond just the "?" or "Sediment"?

- Calculation type 2 for radiogenic heat production seems ambiguous at best and I wouldn't suggest it's inclusion in this database when compared to the quality of the rest of the database. That being said, from a quick check of one of the type 2 heat production entries, it doesn't seem to use that method in the original paper anyway? e.g. for Ashwal1987_1
 - P3 database: Ashwal1987_1, HP: 6.09e-06, Uncertainty: 1.40e-07, 1 measurement, GRS, type 2 method
 - Original paper: Sample no 1, Leucogranite, 'granitic', 6.09+-0.14uW/m3, method used seems to be a variant similar to, but not the same as, method 3.

Some more minor suggestions and technical changes:

- A compressed version of the database would be good for download, as these sparse spreadsheets can often be very amenable to it. Additionally I think the inclusion of the PDF version is not required as I doubt anyone will use it due to both its file size and ability to extract the data.
- Have you done any QC for duplicate entries? This can often be an issue when compiling various sources
- You suggest a number of extensions and inclusions in the manuscript - how long will this database be supported into the future? What kind of time scale would

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the online portal discussed be seen? I think this will do a lot for its longevity and accessibility.

- Line 20, page 2, close bracket
- Figure 1 resolution, although not of particular importance, is too low. This may just be a result of the draft version though?
- Line 15 page 3 - I'd suggest moving the extensive bracketed section to the end of the sentence rather than 4 words from the end
- Line 6 page 4 - Suggest reword to: "This shall ensure a reduction in bias introduced by ..." or "This shall reduce bias introduced by ..."
- Line 14, page 11 - I find this sentence very confusing, I think it needs rewriting entirely. Sometimes along the lines of "In addition to the primary option of manual database quality control whereby/through ... , an automatic process of quality control was implemented" or similar. You may even want to delete this paragraph entirely as the second paragraph with some modification seems sufficient as an opening statement for this subheading.

Interactive comment on Earth Syst. Sci. Data Discuss., <https://doi.org/10.5194/essd-2020-15>, 2020.