

Interactive comment on “Arctic soil development on a series of marine terraces on Central Spitsbergen, Svalbard: a combined geochronology, fieldwork and modelling approach” by W. M. van der Meij et al.

Anonymous Referee #2

Received and published: 8 April 2016

General remarks The paper should be revised by an English speaking person. Some key phrases during the paper should be more supported by references.

Abstract The abstract is a little confused and also a bit long.

Introduction Page 1348 Line 20: Difference of the properties of the soils is not only attributed to age. Please rephrase. Line 20 to 23: Support this part with a reference. Page 1349 Line 5 to 20: Support this part with more references. Page 1356 Line 15: Refer to the method used for grain size classes. Line 20 to 22: Please rephrase. Page

C791

1360 Line 15: Why only use on of the processes? Page 1364 Line 21 to 24: Please rephrase. Page 1365 Line 3 to 9: This part need a better explanation and support with references.

Page 1368 Line 6 to 11: This part need a better explanation and support with references. Page 1367 and 1368 (5.3 Soil Formation): SEM analysis would have been very useful for this paper, especially for the understanding of the weathering rates. Also, detailed profiles of the marine terraces, organic matter and silt content would also serve as a good support. Page 1370 (5.4) To better explain the temporal interaction a Table comparing your dates and from surrounding areas would support your results.

Conclusion Page 1371, line 25-page 1372, line 1 to 3: It is not clear the signs of the physical and chemical weathering. A quartz grain analyses using SEM would support this conclusion. Page 1372 Lines 4 to 7: OSL is a good dating technique, but you only have 3 dates that could not be enough. You should compare your dates, with others from nearby areas.

Interactive comment on SOIL Discuss., 2, 1345, 2015.

C792