

## ***Interactive comment on “The influence of the grain-size, mineralogical and geo-chemical composition on the Verdesca landslide” by V. Summa et al.***

**Anonymous Referee #3**

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General Comments I read the Manuscript: The influence of the grain-size, mineralogical and geo-chemical composition on the Verdesca landslide proposed by V. Summa, S. Margiotta, R. Colaiacovo, M.L. Giannossi very carefully and my evaluation is that the Manuscript in the present form is very weak and I cannot propose it for publication. The research has potential to be resulted with an original paper but the Manuscript should be completely rewritten and significantly improved. Here are general comments on the proposed Manuscript: 1.The title of the Manuscript do not express the content of the Manuscript. It is not possible to find the influence of the grain-size, mineralogical and geo-chemical composition on behavior or trigger of the Verdasca landslide in the

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manuscript. The title should be changed or the manuscript should be amended. 2.The Verdasca landslide is very slightly described. Landslide description should be better and detailed figures should be added (especially cross-section). 3.Better presentation of shear strength testing is needed. 4.Correlations between mineralogical composition and shear strength are very week and should be better explained. Specific Comments 1.Page 5049, line 4: What does it mean term “land degradation process”? Please explain or find better and appropriate term. 2.Page 5049, line 8: What does it mean term “geochemical and mineralogical hazard factors”? Please explain or find better and appropriate term. 3.Page 5050, line 1: “peaty levels” or peaty layers? 4.Page 5050, line 8: Mechanism of the landslide should be better explain. It should be related to Figure 1 which should be improved or another one figure of landslide engineering-geological map should be added. 5.Page 5050, line 17: “...residual shear strength, residual friction angle”. Friction angle is strength parameter. Better term is Residual shear strength parameters. 6.Page 5051, line 21: Please present results of shear strength testing. What does it mean term shear strength? See also Specific Comment 6. 7.Page 5051, line 26: Please present results of Atterberg’s Limits values. 8.Page 5054, line 27: See Specific comment 6. 9.Page 5056, line 27: This conclusion is too general and it is well known in landslide science. 10.Figures 13 and 14: It is not clear what does it mean residual shear strength. Correlations are based on only few points and obtained correlation coefficients are very doubtful. Technical Comments: 1.English should be improved and edited by an English native speaker.

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