Rio de janeiro, March 20, 2023.

Dear Dr. Gustavo Mota de Sousa,

Editor of *Revista do Anuário do Instituto de Geociências*

Answer Letter

Reviewer A:

1. Abstract

Line 4 - insert space - suggestion accepted

Line 10 - insert space - suggestion accepted

Line 12 - insert space - suggestion accepted

Line 16 - insert space - suggestion accepted

1. Introduction

Line 13 - insert space - suggestion accepted

Line 16 - insert space - suggestion accepted

Line 40 – remove the comma - suggestion accepted

Line 60 - insert space - suggestion accepted

Line 108 - insert space - suggestion accepted

1. Materials and methods

Line 2 – Alter “municipality of Nova Friburgo” to “city of Nova Friburgo” -suggestion accepted

Line 8 - remove space – suggestion accepted

Line 14 – Remove the expression. Atlantic Orogenic Belt and insert Ribeira Formation– suggestion accepted.

Line 16 - insert space - suggestion accepted

Line 17 - insert space - suggestion accepted

Line 19 – the mineralogical terminology written incorrectly – the terminology was altered - suggestion accepted

Line 25 - evaluate the suggestion to change terminology – suggestion accepted

Line 55 – abbreviation of the measurement unit - suggestion accepted

Line 83 - insert space - suggestion accepted

Line 88 - insert space - suggestion accepted

1. Results and Discussion

Line 1 – insertion was suggested of a table with the repellence data of areas 1 and 2 - suggestion accepted

Mineralogy

Line 4 - insert space - suggestion accepted

Line 17 - remove space - suggestion accepted

Line 20 - insert space - suggestion accepted

Line 22 - insert space - suggestion accepted

Line 24 - insert space - suggestion accepted

Line 37 – the reviewer suggested removal of the occurrence of the clay mineral smectite from the diffractograms, because the method of impregnating slides with ethylene glycol was not used – suggestion accepted

Line 58 - insert space - suggestion accepted

Line 64 - remove space - suggestion accepted

Characterization by TGA/DTG

Line 4 - remove space - suggestion accepted

Line 11 - insert space - suggestion accepted

Line 21 - insert space - suggestion accepted

Line 25 - insert space - suggestion accepted

Final Considerations

Line 10 - insert space - suggestion accepted

Line 17 – the reviewer suggested alterations of the formatting of the text – alterations were accepted

Line 17 – the reviewer suggested changes in the terminology regarding the lithology of the areas studied – suggestion accepted

Line 17 - the reviewer suggested removal of the occurrence of the clay mineral smectite from the diffractograms, because the method of impregnating slides with ethylene glycol was not used – suggestion accepted

In response to the observations of reviewer 1 (e-mail):

1. lithological terminology of the text – alterations were accepted;
2. removal of the occurrence of the clay mineral smectite from the diffractograms, because the method of impregnating slides with ethylene glycol was not used – alterations were accepted
3. interference of the lithology in the alteration of the mineralogical composition of the soil, since areas 1 and 2 are in the same geological and pedological domain, as reported in previous articles (Mattos *et al*., 2022; Mattos, 2018) – alterations were accepted

Reviewer B:

General comments

Suggestion 1) Alter the title of the work - suggestion accepted

1. Alter the name of the municipality to São Pedro da Aldeia – suggestion no accepted. The name of the district is São Pedro da Serra and it belongs to the city of Nova Friburgo
2. Materials and methods need more information – suggestion accepted
3. Alter the layout of the diffractograms – suggestion accepted

Specific comments

1) Title

Line 1 – alteration of the title to add the region where the study was conducted - suggestion accepted

2) Materials and methods

Line 140 – the text should be separated into a section called geomorphological configurations and/or pedological and geological environments (lines 140 to 170) - suggestion accepted

Line 196 – describe the method used to separate the sand and clay fractions – the pipette method was inserted (Embrapa, 2017) - suggestion accepted

Line 200 – include more Information regarding the X-ray device – description was included of the operating conditions (radiation from the tube, range of analysis and scan speed) – the bibliographic reference “ICDD (2006)” was included - suggestion accepted

Line 214 – fix the name of the Mineral Technology Center (CETEM) – suggestion accepted

Line 214 – alter the expression “dynamics thermography” to “thermogravimetric differential analysis” – suggestion accepted

Line 222 – add the names of the thermogravimetric analyses DGA and DTG – suggestion accepted.

1. Results

Line 232 – remove the reference King (1981) - suggestion accepted

Line 279 – the reviewer suggested removing the ambiguity in the description of kaolinite. The international nomenclature available at the Webmineral site was used - suggestion accepted

Line 288 – the reviewer suggested using the nomenclature of Warr (2020) in the legend of the diffractograms - suggestion accepted

Line 303 – the reviewer surmised that the presence of the peaks referring to kaolinite in the diffractograms is an indicator that the temperatures did not reach 500 0C - suggestion accepted

Line 331 - the reviewer suggested using the nomenclature of Warr (2020) (2020) - suggestion accepted

Line 395 – the reviewer suggested using the expression “possible occurrence” of the clay mineral smectite, but the suggestion was not accepted, because reviewer 1 requested the removal of the use of the clay mineral smectite from the diffractograms

In response to the observations of reviewer 2 (e-mail):

1. alter the title of the article to include the region studied - suggestion accepted;
2. improve the description in the materials and methods section - suggestion accepted
3. improve the graphical appearance of the diffractograms - suggestion accepted