BUKTI KORESPONDENSI

ARTIKEL JURNAL INTERNASIONAL BEREPUTASI

Judul Artikel : **Analysis of Cobalt Distribution and Co-Ni Correlation in Nickel Laterite Zonation in Tropical Region**

Jurnal : **Iraqi Geological Journal (https://igj-iraq.org/igj/index.php/igj/index)**

Publisher : **The Union of Iraqi Geologists**

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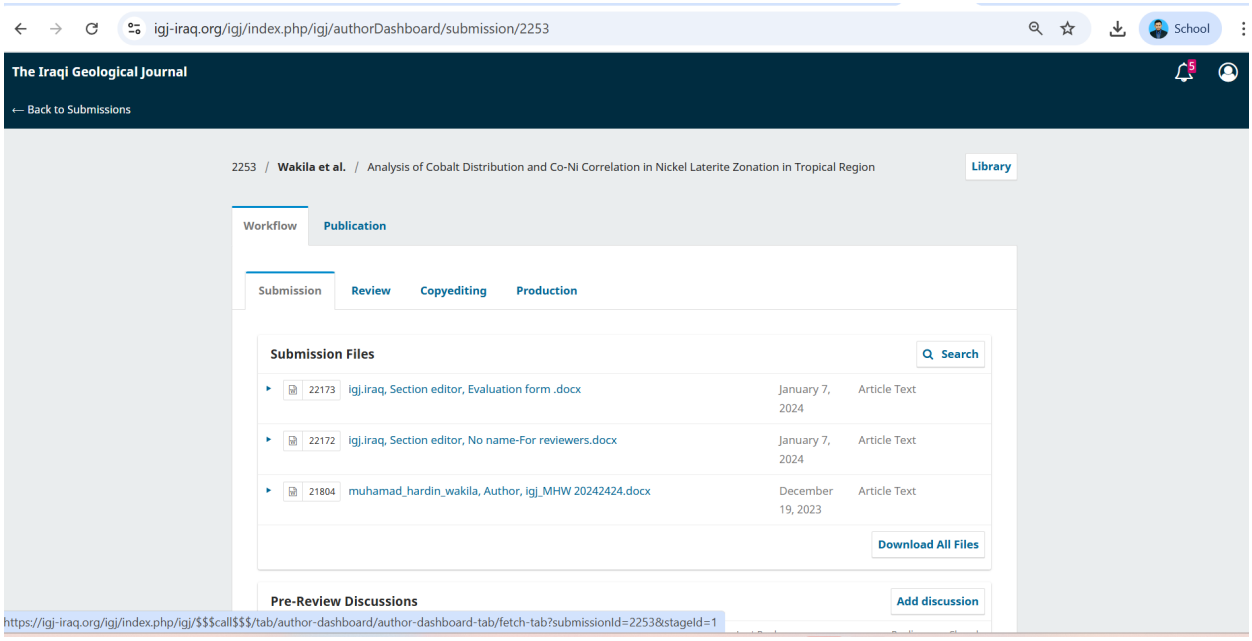
Penulis : **Muhamad Hardin Wakila, Supardin Nompo, Nurliah Jafar, Alam Budiman Thamsi, Abdul Salam Munir, Andi Fahdli Heriansyah.**

History Journal

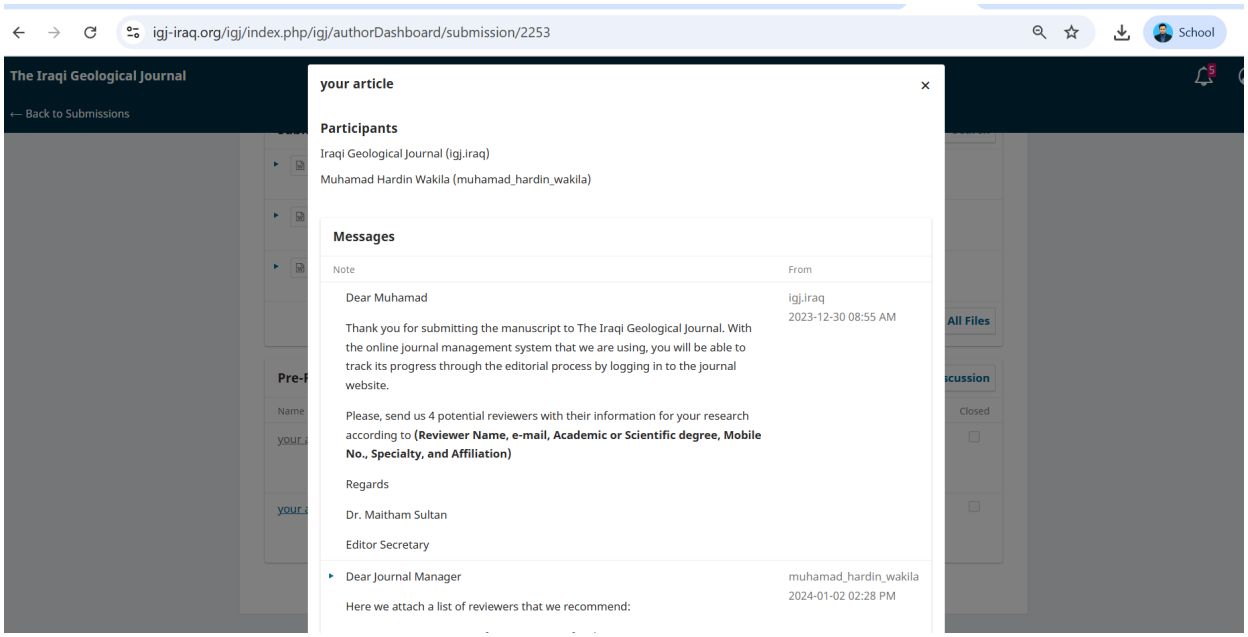
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4	Bukti permintaan revisi artikel artikel dari reviewer	07 Mei 2024
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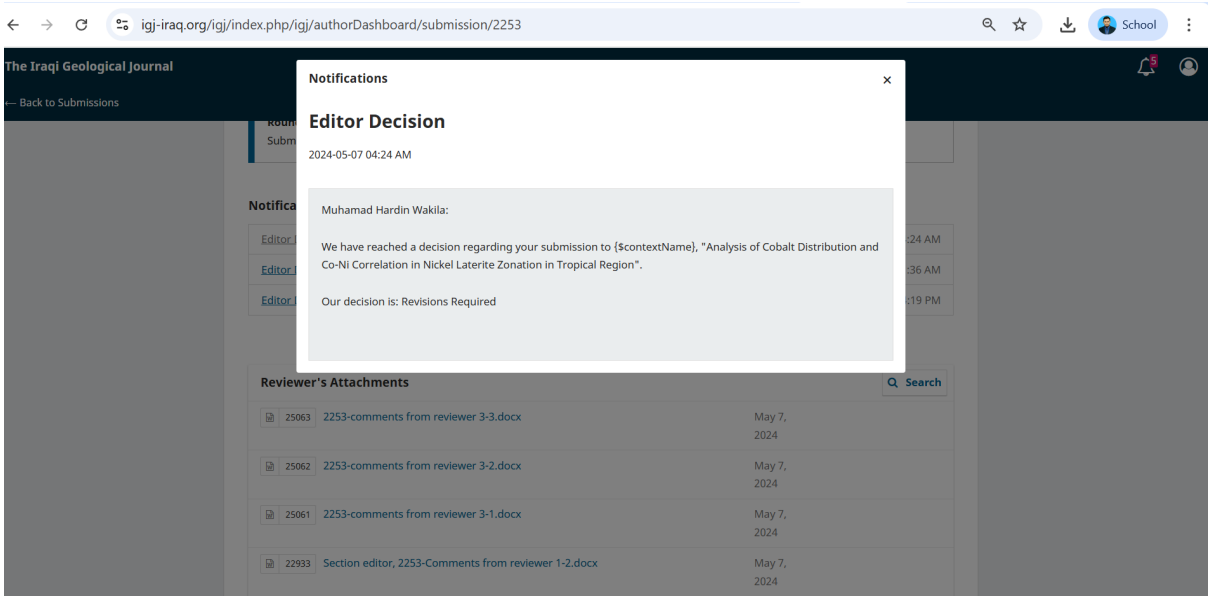
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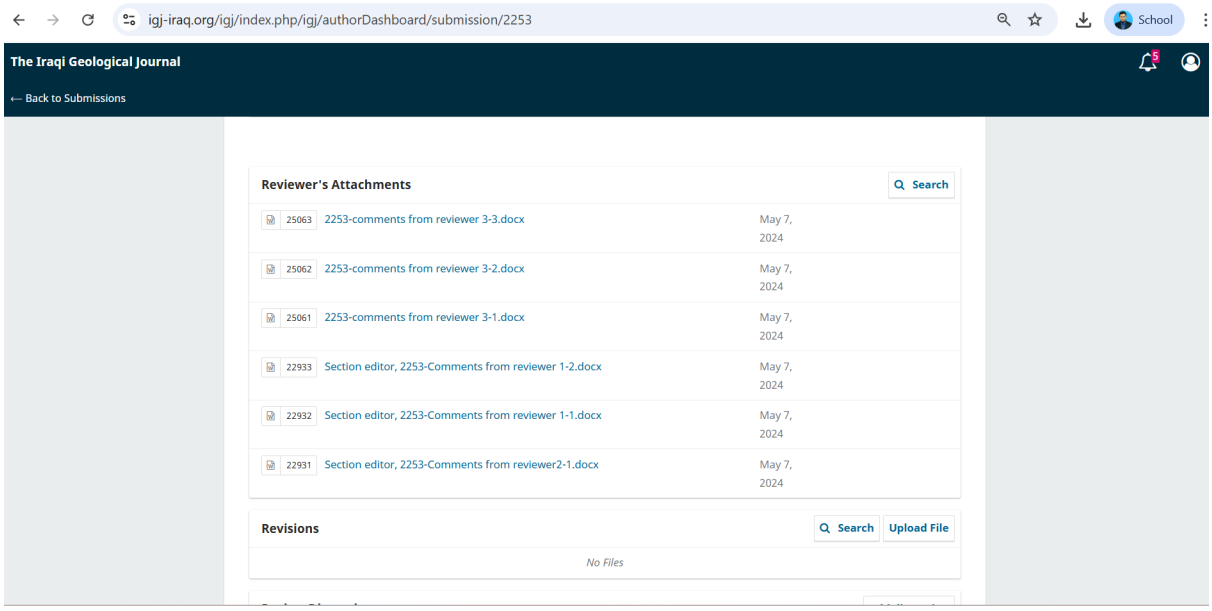
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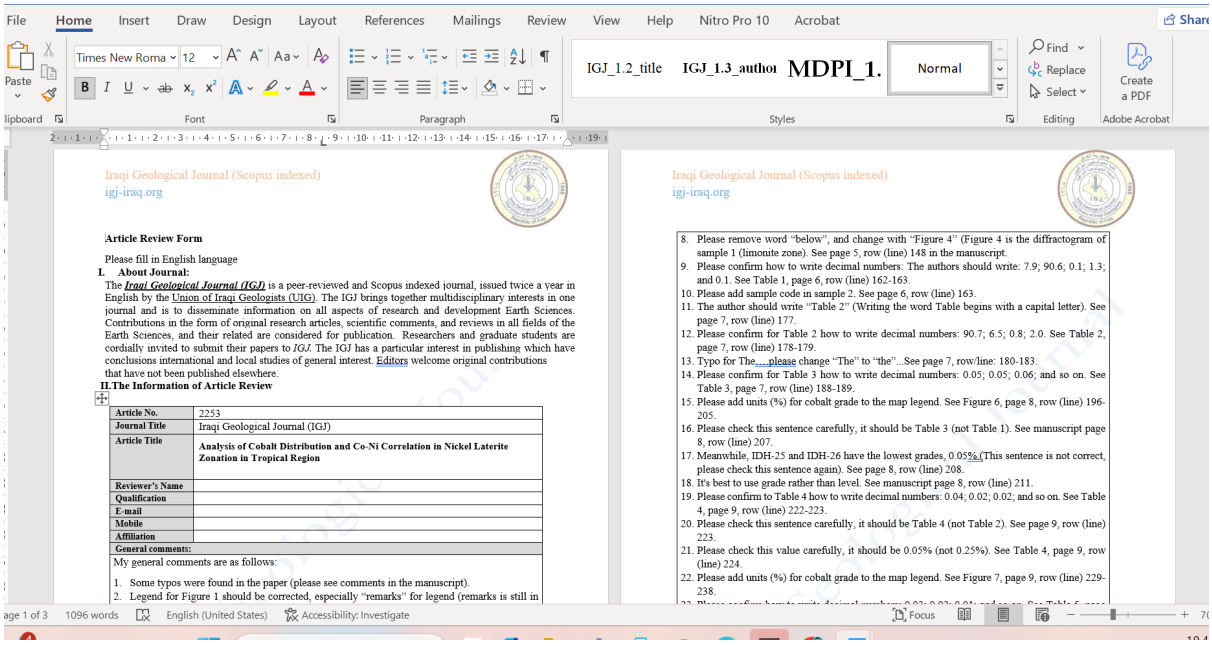
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Article Review Form

Please fill in English language

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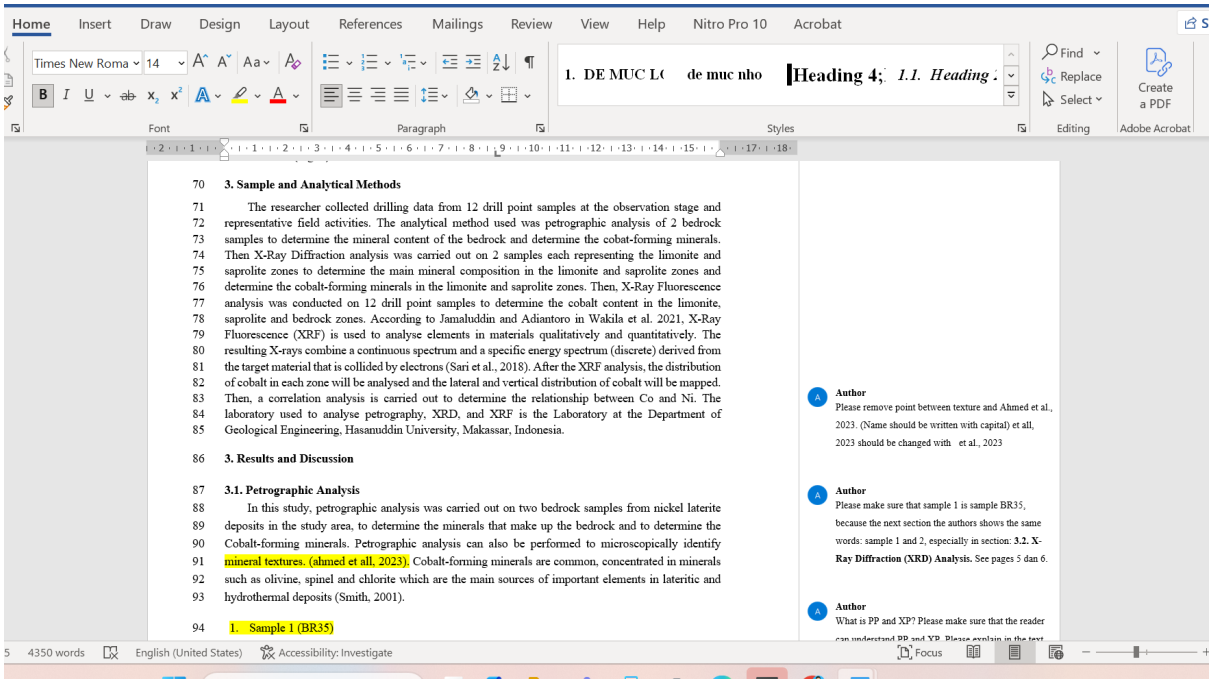
The ***Iraqi Geological Journal (IGJ)*** is a peer-reviewed and Scopus indexed journal, issued twice a year in English by the Union of Iraqi Geologists (UIG). The IGJ brings together multidisciplinary interests in one journal and is to disseminate information on all aspects of research and development Earth Sciences. Contributions in the form of original research articles, scientific comments, and reviews in all fields of the Earth Sciences, and their related are considered for publication. Researchers and graduate students are cordially invited to submit their papers to *IGJ*. The IGJ has a particular interest in publishing which have conclusions international and local studies of general interest. Editors welcome original contributions that have not been published elsewhere.

II.The Information of Article Review

Article No.	2253
Journal Title	Iraqi Geological Journal (IGJ)
Article Title	**Analysis of Cobalt Distribution and Co-Ni Correlation in Nickel Laterite Zonation in Tropical Region**
Reviewer's Name	
Qualification	
E-mail	
Mobile	
Affiliation	
General comments:	
My general comments are as follows: 1. Some typos were found in the paper (please see comments in the manuscript). 2. Legend for Figure 1 should be corrected, especially "remarks" for legend (remarks is still in	

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8. Please remove word "below", and change with "Figure 4" (Figure 4 is the diffractogram of sample 1 (limonite zone). See page 5, row (line) 148 in the manuscript.
9. Please confirm how to write decimal numbers: The authors should write: 7.9; 90.6; 0.1; 1.3; and 0.1. See Table 1, page 6, row (line) 162-163.
10. Please add sample code in sample 2. See page 6, row (line) 163.
11. The author should write "Table 2" (Writing the word Table begins with a capital letter). See page 7, row (line) 177.
12. Please confirm for Table 2 how to write decimal numbers: 90.7; 6.5; 0.8; 2.0. See Table 2, page 7, row (line) 178-179.
13. Typo for The,... please change "The" to "the"...See page 7, row/line: 180-183.
14. Please confirm for Table 3 how to write decimal numbers: 0.05; 0.05; 0.06; and so on. See Table 3, page 7, row (line) 188-189.
15. Please add units (%) for cobalt grade to the map legend. See Figure 6, page 8, row (line) 196-205.
16. Please check this sentence carefully, it should be Table 3 (not Table 1). See manuscript page 8, row (line) 207.
17. Meanwhile, IDH-25 and IDH-26 have the lowest grades, 0.05%.(This sentence is not correct, please check this sentence again). See page 8, row (line) 208.
18. It's best to use grade rather than level. See manuscript page 8, row (line) 211.
19. Please confirm to Table 4 how to write decimal numbers: 0.04; 0.02; 0.02; and so on. See Table 4, page 9, row (line) 222-223.
20. Please check this sentence carefully, it should be Table 4 (not Table 2). See page 9, row (line) 223.
21. Please check this value carefully, it should be 0.05% (not 0.25%). See Table 4, page 9, row (line) 224.
22. Please add units (%) for cobalt grade to the map legend. See Figure 7, page 9, row (line) 229-238.



70 **3. Sample and Analytical Methods**

71 The researcher collected drilling data from 12 drill point samples at the observation stage and
72 representative field activities. The analytical method used was petrographic analysis of 2 bedrock
73 samples to determine the mineral content of the bedrock and determine the cobat-forming minerals.
74 Then X-Ray Diffraction analysis was carried out on 2 samples each representing the limonite and
75 saprolite zones to determine the main mineral composition in the limonite and saprolite zones and
76 determine the cobalt-forming minerals in the limonite and saprolite zones. Then, X-Ray Fluorescence
77 analysis was conducted on 12 drill point samples to determine the cobalt content in the limonite,
78 saprolite and bedrock zones. According to Jamaluddin and Adiantoro in Wakila et al. 2021, X-Ray
79 Fluorescence (XRF) is used to analyse elements in materials qualitatively and quantitatively. The
80 resulting X-rays combine a continuous spectrum and a specific energy spectrum (discrete) derived from
81 the target material that is collided by electrons (Sari et al., 2018). After the XRF analysis, the distribution
82 of cobalt in each zone will be analysed and the lateral and vertical distribution of cobalt will be mapped.
83 Then, a correlation analysis is carried out to determine the relationship between Co and Ni. The
84 laboratory used to analyse petrography, XRD, and XRF is the Laboratory at the Department of
85 Geological Engineering, Hasanuddin University, Makassar, Indonesia.

86 **3. Results and Discussion**

87 **3.1. Petrographic Analysis**

88 In this study, petrographic analysis was carried out on two bedrock samples from nickel laterite
89 deposits in the study area, to determine the minerals that make up the bedrock and to determine the
90 Cobalt-forming minerals. Petrographic analysis can also be performed to microscopically identify
91 mineral textures. (ahmed et all, 2023). Cobalt-forming minerals are common, concentrated in minerals
92 such as olivine, spinel and chlorite which are the main sources of important elements in lateritic and
93 hydrothermal deposits (Smith, 2001).

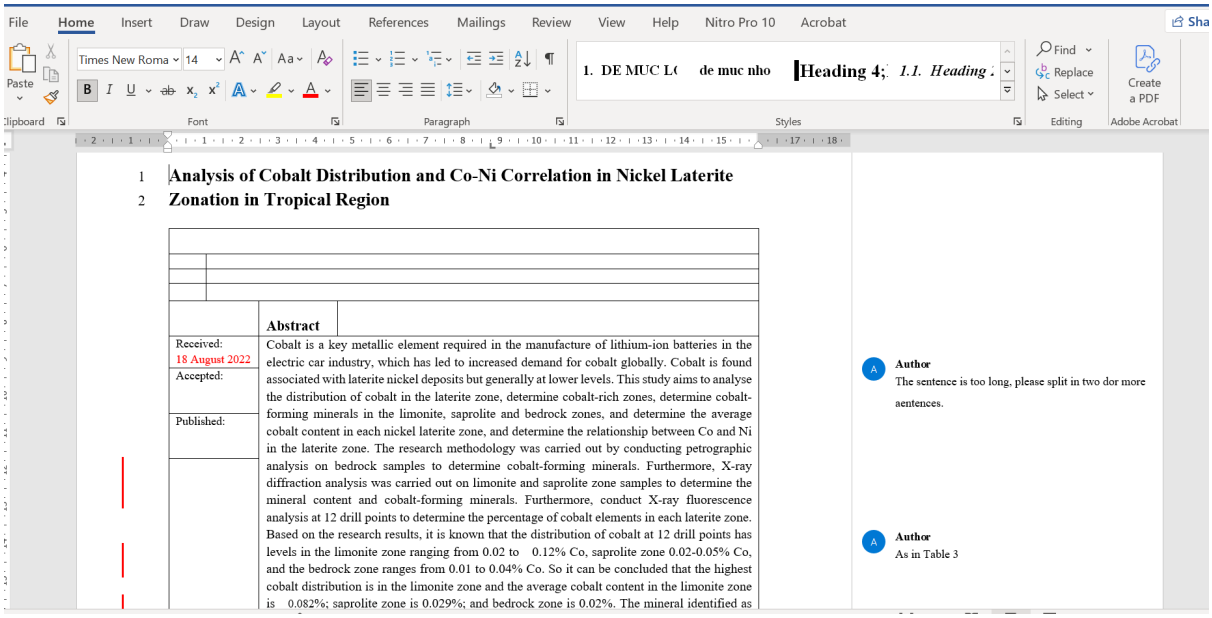
94 1. Sample 1 (BR35)

Author
Please remove point between texture and Ahmed et al., 2023. (Name should be written with capital) et all, 2023 should be changed with et al., 2023

Author
Please make sure that sample 1 is sample BR35, because the next section the authors shows the same words: sample 1 and 2, especially in section: **3.2. X-Ray Diffraction (XRD) Analysis.** See pages 5 dan 6.

Author
What is PP and XP? Please make sure that the reader

Bukti artikel review komentar dari reviewer 2



1 **Analysis of Cobalt Distribution and Co-Ni Correlation in Nickel Laterite**
2 **Zonation in Tropical Region**

Abstract

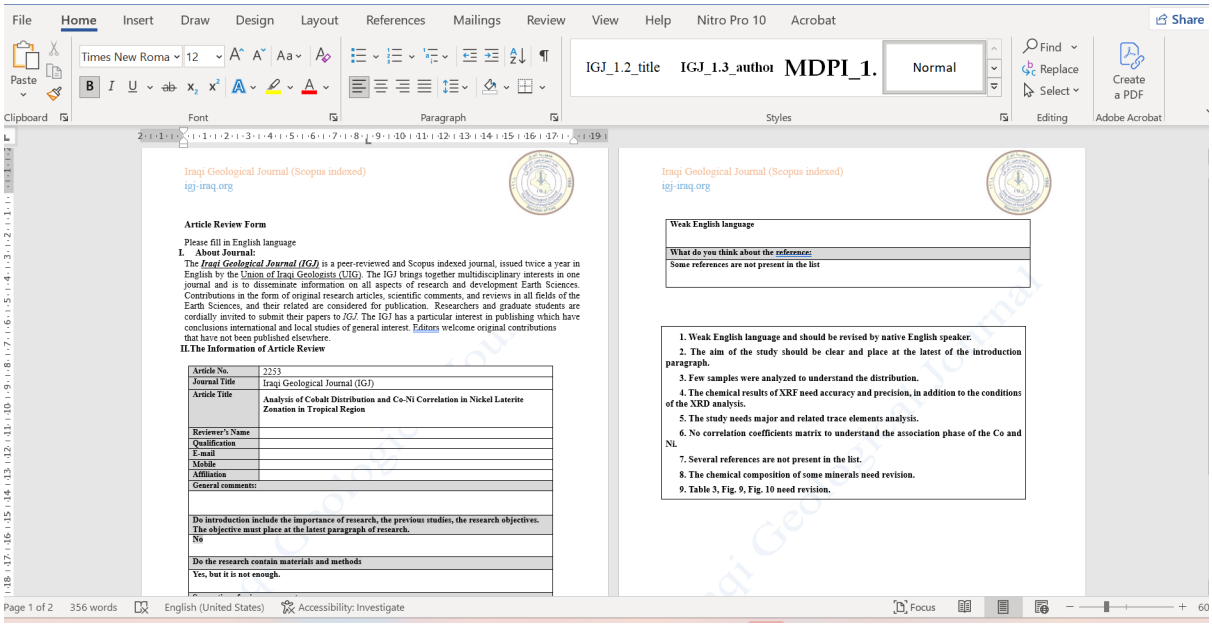
Received: 18 August 2022
Accepted:
Published:

Cobalt is a key metallic element required in the manufacture of lithium-ion batteries in the electric car industry, which has led to increased demand for cobalt globally. Cobalt is found associated with laterite nickel deposits but generally at lower levels. This study aims to analyse the distribution of cobalt in the laterite zone, determine cobalt-rich zones, determine cobalt-forming minerals in the limonite, saprolite and bedrock zones, and determine the average cobalt content in each nickel laterite zone, and determine the relationship between Co and Ni in the laterite zone. The research methodology was carried out by conducting petrographic analysis on bedrock samples to determine cobalt-forming minerals. Furthermore, X-ray diffraction analysis was carried out on limonite and saprolite zone samples to determine the mineral content and cobalt-forming minerals. Furthermore, conduct X-ray fluorescence analysis at 12 drill points to determine the percentage of cobalt elements in each laterite zone. Based on the research results, it is known that the distribution of cobalt at 12 drill points has levels in the limonite zone ranging from 0.02 to 0.12% Co, saprolite zone 0.02-0.05% Co, and the bedrock zone ranges from 0.01 to 0.04% Co. So it can be concluded that the highest cobalt distribution is in the limonite zone and the average cobalt content in the limonite zone is 0.082%; saprolite zone is 0.029%; and bedrock zone is 0.02%. The mineral identified as

Author
The sentence is too long, please split in two dor more aentences.

Author
As in Table 3

Bukti artikel review form dan komentar dari reviewer 1



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Article Review Form

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II.The Information of Article Review

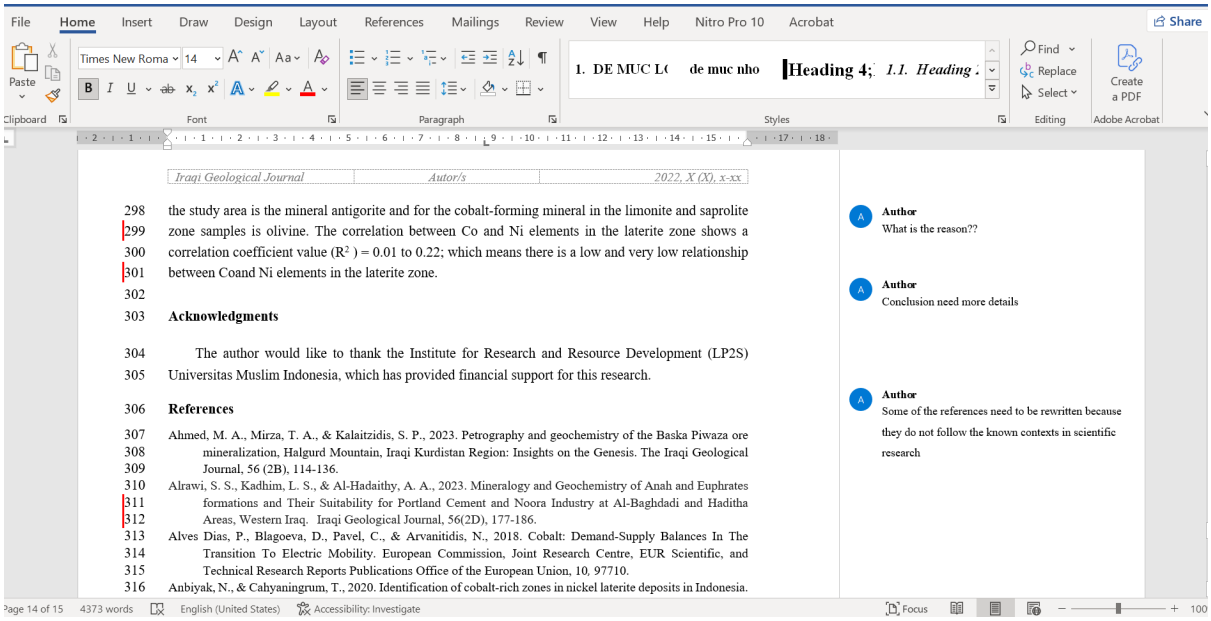
Article No.	2253
Journal Title	Iraqi Geological Journal (IGJ)
Article Title	**Analysis of Cobalt Distribution and Co-Ni Correlation in Nickel Laterite Zonation in Tropical Region**
Reviewer's Name	
Qualification	
E-mail	
Mobile	
Affiliation	
General comments:	
Do introduction include the importance of research, the previous studies, the research objectives. The objective must place at the latest paragraph of research.	
No	
Do the research contain materials and methods	
Yes, but it is not enough.	

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Weak English language
What do you think about the reference:
Some references are not present in the list

1. Weak English language and should be revised by native English speaker.
2. The aim of the study should be clear and place at the latest of the introduction paragraph.
3. Few samples were analyzed to understand the distribution.
4. The chemical results of XRF need accuracy and precision, in addition to the conditions of the XRD analysis.
5. The study needs major and related trace elements analysis.
6. No correlation coefficients matrix to understand the association phase of the Co and Ni.
7. Several references are not present in the list.
8. The chemical composition of some minerals need revision.
9. Table 3, Fig. 9, Fig. 10 need revision.

Page 1 of 2 356 words English (United States) Accessibility: Investigate



Iraqi Geological Journal | *Autor/s* | *2022, X (X), x-xx*

the study area is the mineral antigorite and for the cobalt-forming mineral in the limonite and saprolite zone samples is olivine. The correlation between Co and Ni elements in the laterite zone shows a correlation coefficient value (R^2) = 0.01 to 0.22; which means there is a low and very low relationship between Coand Ni elements in the laterite zone.

Acknowledgments

The author would like to thank the Institute for Research and Resource Development (LP2S) Universitas Muslim Indonesia, which has provided financial support for this research.

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Alrawi, S. S., Kadhim, L. S., & Al-Hadaithy, A. A., 2023. Mineralogy and Geochemistry of Anah and Euphrates formations and Their Suitability for Portland Cement and Noora Industry at Al-Baghdadi and Haditha Areas, Western Iraq. Iraqi Geological Journal, 56(2D), 177-186.

Alves Dias, P., Blagoeva, D., Pavel, C., & Arvanitidis, N., 2018. Cobalt: Demand-Supply Balances In The Transition To Electric Mobility. European Commission, Joint Research Centre, EUR Scientific, and Technical Research Reports Publications Office of the European Union, 10, 97710.

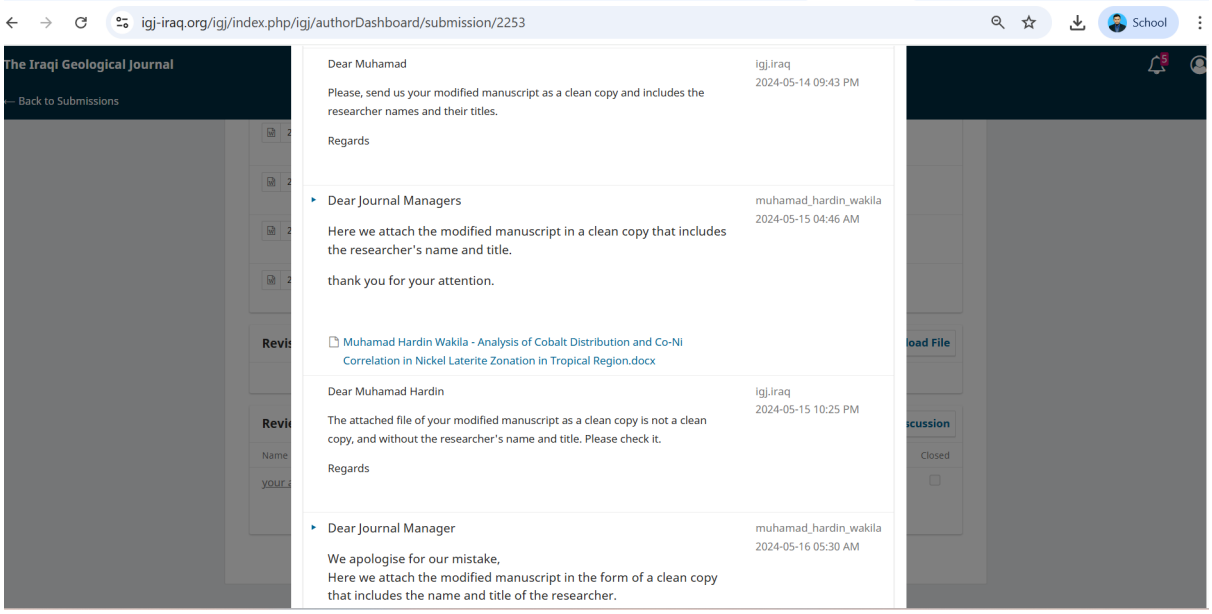
Anbiyak, N., & Cahyaningrum, T., 2020. Identification of cobalt-rich zones in nickel laterite deposits in Indonesia.

Author What is the reason??

Author Conclusion need more details

Author Some of the references need to be rewritten because they do not follow the known contexts in scientific research

5. Bukti permintaan perbaikan artikel dalam bentuk salinan bersih beserta nama penulis (14 Mei 2024)



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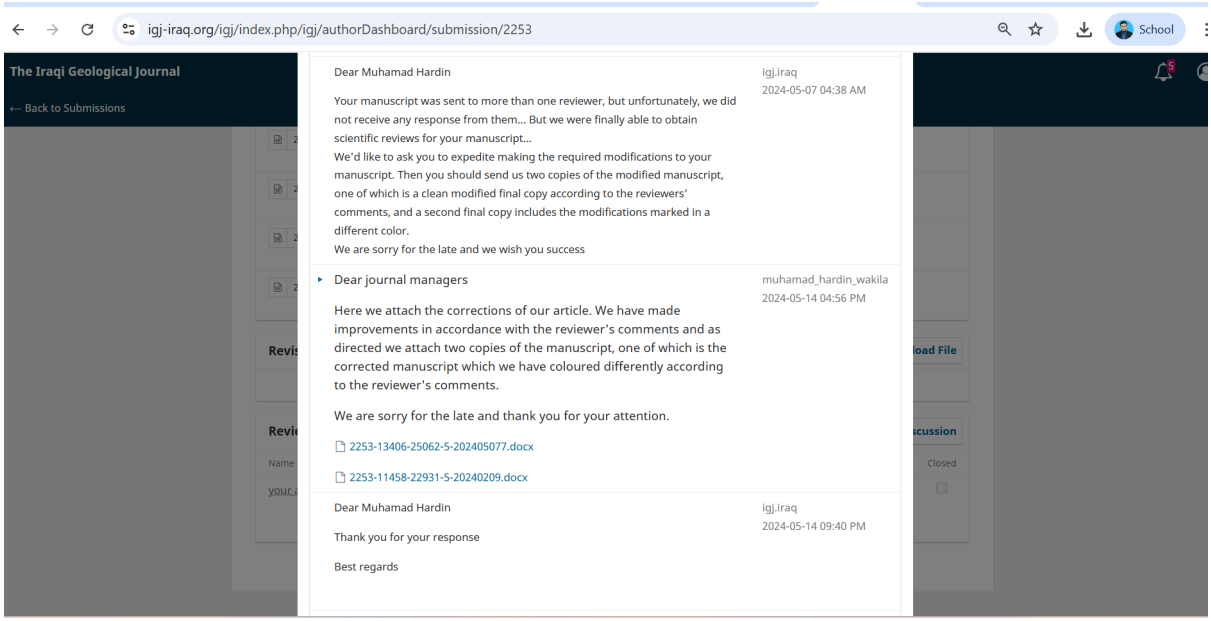
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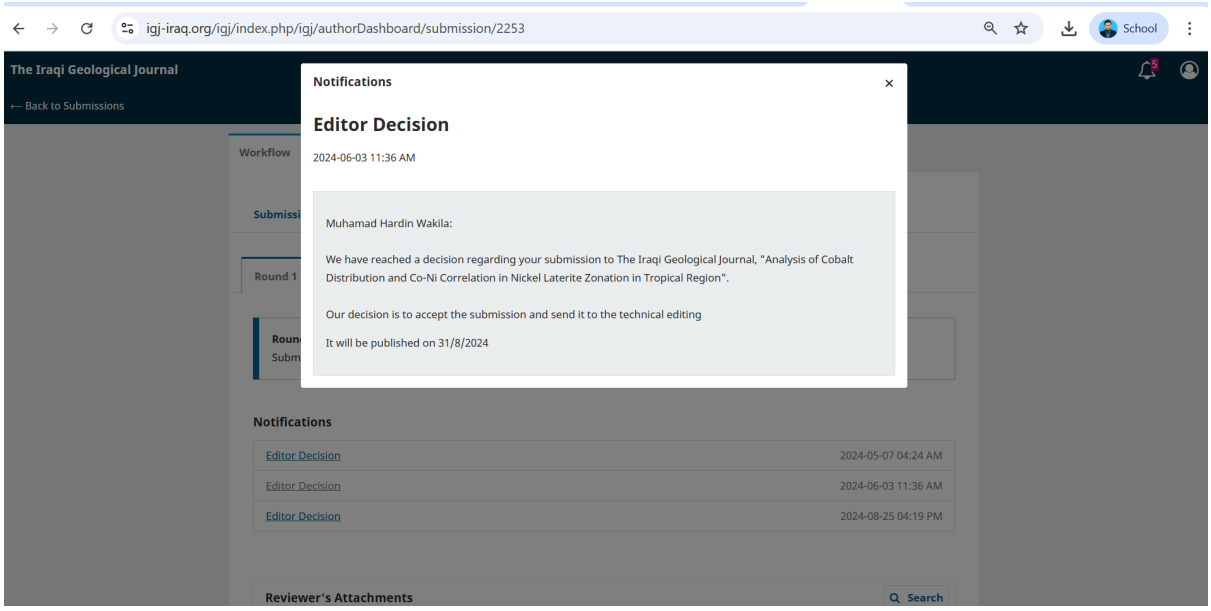
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8. Bukti Konfirmasi Publish (25 Agustus 2024)

