INSTITUT TEKNOLOGI NASIONAL YOGYAKARTA
Technopreneur In Future Energy

SUPANDI STTNAS <supandi@sttnas.ac.id>

Your PDF GEOTECHNICAL PROFILING WITH 2D WENNER-SCHLUMBERGER CONFIGURATION ON MINE WASTE DUMP OF SURFACE MINE Geotechnical Profiling on Surface Mine has been built and requires approval

Open Geosciences <em@editorialmanager.com> Sat, May 30, 2020 at 10:06 AM
Reply-To: Open Geosciences <opengeosciences@degruyteropen.com>
To: Supandi Supandi <supandi@sttnas.ac.id>

Dear Mr Supandi,

The PDF for your submission, "GEOTECHNICAL PROFILING WITH 2D WENNER-SCHLUMBERGER CONFIGURATION ON MINE WASTE DUMP OF SURFACE MINE Geotechnical Profiling on Surface Mine" is ready for viewing.

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Username: supandi@sttnas.ac.id
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Your submission must be approved in order to complete the submission process and send the manuscript to the Open Geosciences editorial office.

Please view the submission before approving it to be certain that your submission remains free of any errors.

Thank you for your time and patience.

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INSTITUT TEKNOLOGI NASIONAL YOGYAKARTA
Technopreneur In Future Energy

SUPANDI STTNAS <supandi@sttnas.ac.id>

Submission Confirmation for GEOTECHNICAL PROFILING WITH 2D WENNER-SCHLUMBERGER CONFIGURATION ON MINE WASTE DUMP OF SURFACE MINE Geotechnical Profiling on Surface Mine

Open Geosciences <em@editorialmanager.com> Sat, May 30, 2020 at 12:45 PM
Reply-To: Open Geosciences <opengeosciences@degruyteropen.com>
To: Supandi Supandi <supandi@sttnas.ac.id>

Dear Mr Supandi,

Your submission entitled "GEOTECHNICAL PROFILING WITH 2D WENNER-SCHLUMBERGER CONFIGURATION ON MINE WASTE DUMP OF SURFACE MINE Geotechnical Profiling on Surface Mine " has been received by Open Geosciences.

You will be able to check on the progress of your paper by logging on to Editorial Manager as an author. The URL is https://www.editorialmanager.com/opengeo/

Your manuscript will be given a reference number once an Editor has been assigned.

Thank you for submitting your work to this journal.

Kind regards,

Editorial Office Staff
Open Geosciences
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INSTITUT TEKNOLOGI NASIONAL YOGYAKARTA
Technopreneur In Future Energy

SUPANDI STTNAS <supandi@sttnas.ac.id>

Your Submission

Open Geosciences <em@editorialmanager.com> Wed, Jul 22, 2020 at 2:21 PM
Reply-To: Open Geosciences <opengeosciences@degruyteropen.com>
To: Supandi Supandi <supandi@sttnas.ac.id>

Ref.: Ms. No. OPENGEO-D-20-00084
GEOTECHNICAL PROFILING WITH 2D WENNER-SCHLUMBERGER CONFIGURATION ON MINE WASTE DUMP OF SURFACE MINE Geotechnical Profiling on Surface Mine
Open Geosciences

Dear Mr Supandi,

On behalf of the Editors and Advisory Board of Open Geosciences, I extend my thanks for submitting your manuscript for our consideration. The manuscript has been reviewed and based on reviewers comments the editor of the respective field has decided that it requires revision.
Please resubmit a revised version together with a cover letter describing all changes made and explaining how you have followed the referees suggestions. The revision should be made by following point-by-point the comments given below. If you do not agree with the comments made or there are any suggestions you have not considered, we also welcome your detailed justification.

In addition to the editorial remarks, please take care that you have prepared the revised version according to the Journal's style - by carefully following the points indicated in our Guide for Authors at: http://www.degruyter.com/view/supplement/s23915447_Instruction_for_Authors.pdf

Please submit your revised version as soon as possible, no later than by 2020/08/21.

To submit a revision, go to https://www.editorialmanager.com/opengeo/ and log in as an Author. You will see a menu item call Submission Needing Revision. You will find your submission record there.

Yours sincerely,

Jan Barabach, Ph.D.
Managing Editor
Open Geosciences

Reviewers' comments:

Reviewer #1: The main purpose of the manuscript is to describe the investigation results regarding the profile in a surface mining area using the Wenner - Schlumberger geoelectrical method.
The analysis is based on the technical description of the method and the results focus on the stratigraphy profile considering specific cross sections. From the overall presentation I would say that an interesting applied work has been done.
However, many major concerns arise regarding the manuscript:
1. In its current form the manuscript is difficult to read. Many sentences need to be clarified.
2. The theoretical analysis is poor. A more in-depth quantitative analysis is needed.
3. The research questions as well as the original contribution of the work, comparing to other previous works are not adequately presented. In this framework, a more critical review of previous work is required. In addition, more recent research papers need to be discussed.
4. A better description of the target area is needed. Furthermore, the technical characteristics of investigated area should be clarified, incorporating the geological information. The in pit dumping data need to be better explained.
5. From an engineering point of view, an analytical explanation of the experimental design in relation to the geological and mining conditions as well as to the mineral deposit characteristics should be given.
6. A further analysis of the data is needed.
7. A further interpretation of the results is needed. The results are not clearly related to the geotechnical analysis. In addition, the results need to be discussed in relation to the parameters of the slope stability analysis.
8. The coupling between the theoretical and the experimental analysis is missing.
9. The uncertainties of the analysis are note described in the text.

Additional comments and recommendations for the improvement of the manuscript:

General notes

The English language should be significantly improved throughout the manuscript. There are numerus mistakes in the use of English which should be corrected. It is advisable to have the manuscript read by a native speaker.

The methods should be described in a more efficient way.

Figures 2 and 3 are not mentioned in the text.

The same pattern of references should be followed within the text.

Abstract

The abstract needs to be improved based on the research questions, the methods and the results.

1. Introduction

General notes:

The introduction does not provide sufficient background information on the topic. The research questions should be clearly described. More research papers on the topic should be also discussed.

A more detailed geological description of the research area should be added.

[Lines 57-67] A more critical explanation of the factors could be added.

[Fig. 2] This needs to improve showing the research area. A legend is missing.

[Fig. 3] It also needs to improve in relation to the target area.

2. Materials and Method

General note:

The theoretical analysis is poor. A further justification regarding the selection of the geoelectrical method needs to be provided. In this section a further analysis is also required. The coupling between the theoretical and the experimental analysis should be described.

- The experimental design needs to be discussed and justified.
- The equations need to be numbered.

3. Results and Discussion

General note:

In this section a further analysis of the results is needed.

4. Conclusion

General note:

This section should focus on the original contribution of the research as well as on the research results based on the research questions.

Reviewer #2: Dear author. Below are the comments.

Abstract: The abstract must contain a sentence that contextualizes the work; show its importance and relevance. It is necessary to highlight the objectives of the manuscript. The concluding sentence needs to be improved.

Introduction: The item needs to be referenced. Does Figure 1 belong to the author? There are many concepts presented without reference. It is necessary to add (current) works that contribute to the research presented and justify it. How relevant is it? Does it seek to answer or answer any inconsistencies? It is necessary to present in the last paragraph the clear objectives and the (summarized) methods for achieving them. Figures 1 and 2 are not referenced in the text. Figure 2 needs to have in the caption made explicit what data and scale are being presented.

Materials and Methods: Formulas must be written in the manuscript and not presented as Figures. Figure 4 has poor resolution. Figure 5 needs to present the caption. Is it possible to present a plan with the definition of the places where the presented methods were executed? Was there any premise for using them? It was missing to inform the characteristics of the analyzed sections, characteristics of the geological materials found, etc. Was there a direct investigation to prove the subsurface materials? If so, which ones?

Results and Discussions: Figures 6 to 11 are not referenced in the text. Their captions need to inform which method is being presented. A map with the location of these sections would be interesting. The data in general is being presented. However, they still need to be discussed with papers in the scientific literature. As the data is presented, the manuscript is similar to a technical report.

Conclusions: I suggest that after completing the comments in the previous items, the conclusion should be rewritten.

Reviewer #3: Dear Author,

The paper is not well prepared and there are a lot of critical shortages. The manuscript has certainly potential to improve. In my humble opinion, if the manuscript is thoroughly revised and reorganized, it can make a good publication. To help improve the quality of this manuscript, I have added more comments bellow:
General Comments:
1. I suggest changing the title to "GEOTECHNICAL PROFILING WITH 2D WENNER-SCHLUMBERGER CONFIGURATION ON MINE WASTE DUMP OF SURFACE MINE"
2. Check spaces throughout all paper (a lot of connected words in the text ...).
3. Throughout the text rewrite the meter in m.
4. Figure 5,6,7 missing unit.
5. Expand "References" with more new references and similar examples worldwide.
6. In the chapter "Introduction" expand on the application of mapping to similar examples from the literature.
7. In the chapter "Materials and Method" it is necessary to describe in detail with mathematical expressions all the calculations that are used to calculate the variables. With references and corresponding designations and units.
8. The "Results and Discussion" section should describe the advantages and disadvantages of this type of mapping. What are future system improvements, future research etc.
9. In the chapter "Conclusion" it is stated in the order for this case study, what about the universal application of this method, that it can be applied to similar examples in the world? Recommendations for measuring, making maps, etc.

L14 delete: "Data processing using Res2Dinv software."
L26 "…classified into 3 types:" -> …classified into 3 types [1]:
L31 delete [1]
L46 "(Dona, Akmam, & Sudiar, 2015)" -> delete
L88 "Res2Dinv software" -> Producer? Full name of product?
L90 "ASTM D7852 - 13" -> Producer? Full name of product?
L97 From Figure 4, extract a mathematical expression, with the appropriate citation, and print the labels with the appropriate units. Insert into text before Figure 4.4
L101 Write the formula in a mathematical program, with the appropriate notation and units.
L109 "using mathematical calculations" -> what these expressions are and where they have been explained before.
L110 What is "pseudo data"?
L111 What is "calculated data"?
L111 What is "inverted"? why that is better for mapping?
L134 Why "Seven times iteration"?
L135 What is "error value"? Which is a mathematical expression and literature (comparison of results).
L149 Mpa?

Kind regards,
Reviewer

Reviewer #4: Open Geosciences
OPENGEO-D-20-00084
Title: Geotechnical profiling with 2d wenner-schlumberger configuration on mine waste dump of surface mine geotechnical profiling on surface mine
Comments by Reviewer
This paper provided substrata profiling of disposal material using geoelectrical method. The interpretation of the subsurface cross-section showed 3 layers consisted of bed rock, contact zone, and disposal material layer. The paper has a very good novelty and can be published after considering all the comments given. Besides, it is suggested that the authors after addressing all the comments in the revised manuscript to send it for proofreading in order to polish all the grammatical and typo errors existing within this manuscript.
The following points shall be addressed in the revised manuscript before it can be considered for publication:
Title: Please maintain only one title. Why do you have to titles? The title should be meaningful and represents the content of the paper. Please revise it. The title should be re-written as "Geotechnical profiling with two-dimensional wenner-schlumberger configuration on mine waste dump of surface mine"
Abstract: The abstract has some flaws. It should contain a background, brief explanation of problem statement, objectives, methodology and main results. Please revise to ensure putting all those mentioned earlier. Please do the following amendments.
In page 2 line 7, please re-write the phrase "It assumed that the" as "It is assumed that the".
In page 2 line 14, please provide spacing between the numbers and the units in the quoted phrase "130m and thickness around 50m".
In page 2 line 14, please re-write "Data processing using Res2Dinv software" as "the data was processing using Res2Dinv software".
In page 2 lines 15 and 16, please re-write in lower case "Contact 16 Zone, and Disposal Material layer".
Introduction:
1. The paper has only 10 references and most of them are dated, it is suggested to include more recent papers. The

literature is not critically reviewed, please include a critical and detailed review on slope stability analysis and also the main topics of this paper. You may cite the following recent papers and more:
a. Alsubal S, Sapari N, Harahap I SH and Al-Bared M A M 2019 A review on mechanism of rainwater in triggering landslide, IOP Conf. Ser. Mater. Sci. Eng. 513 pp1-12. doi:10.1088/1757-899X/513/1/012009.
b. Al-Bared M A M, Abdullah R A, Mohd Yunus N Z, Mohd Amin M F and Awang H 2015 Rock slope assessment using kinematic and numerical analyses J. Teknol. 72 pp 1-7. doi:10.11113/jt.v77.6421.
c. Al-Bared M A M , Harahap I S H , Marto A , Mustaffa Z , Ali M O A , Al-Subal S 2019 Stability of cut slope and degradation of rock slope forming materials - a review, Malaysian Constr. Res. J. 6 pp 215-226.
d. Abdullah R A, Rosle Q A , Al- Bared M A M , Haron N H , Kamal M and Ghazali M 2015 Stability assessment of rock slope at Pangsapuri Intan, Cheras in: Int. Conf. Slopes Malaysia: pp 1-16.
e. Al-Bared M A M , Harahap I S H , Azuddin N H, Marto A , Alavi Nezhad Khalil Abad S V, M Ali O A and Isah B W 2020 Degradation of limestone exposed to drying and wetting cycles - experimental study, IOP Conference Series: Earth and Environmental Science, 476 012040.
Please consider the following points:
2. In page 3 lines 25-31, please re-write in a paragraph form. It is not advisable to write in a point form within the introduction.
3. In pages 3 line 46, please ensure that you use the proper citation of Open Geosciences Journal. Do not combine both alphabetical and numerical systems as quoted here "(Dona, Akmam, & Sudiar, 2015)[5]".
3. In pages 4 and 5 lines 57-67, please re-write in a paragraph form. It is not advisable to write in a point form within the introduction.
4. In page 5 lines 74, the word "and" was repeated twice.
5. In pages 5 and 6, Figures 2 and 3 were not mentioned within the text. Besides, for Figure 1, it was mentioned within the text, but it was written as "Fig. 1". Please be consistent and use either Figure of Fig.
6. The last paragraph of the introduction should clearly highlight the objective and the novelty of the manuscript.

Materials and Method
The methodology is not clear and should be re-written. Please provide photos of the studied site and also for the methodologies adopted for better understanding. Please try to relate with the slope stability profiling which is the main topic of this paper.

Results and Discussion
1. In page 9 lines 137-143, please justify your findings and cite published research to support your findings.
2. For Figures 6-8, please label the vertical and horizontal axis. Also, provide a proper legend to easily understand the different colors in the Figures.
3. In page 9 lines 144-150, please justify your findings and cite published research to support your findings.
4. In Figures 9-11, why the strata started upside down. For example, bed rock was in the top and the disposal material was in the bottom. Kindly clarify that.

Conclusion
Conclusion is written in short point form; need to clearly explain the findings in the conclusion not just provide short sentences as it currently reads. Authors also need to edit the whole paper to avoid any typos.

Reviewer #5: The author has studied the geotechnical profiling on surface mine waste dump using 2D wenner-schlumberger configuration. The subject is relevant to the scope of the journal and the work is original. The paper is recommended for publication after addressing the following comments and MAJOR REVISION:
1. The abstract structure is NOT suitable; it is expected the standard structure of abstract to be followed and the quantity results MUST be explained.
2. The literature review is not complete. The journal papers relevant to the author's work should be addressed. Introduction can be extended and MORE and NEWEST references should be added.
3. Please present a flowchart summarizing the methodology described in the paper.
4. The author should clearly mention weaknesses and limitations of the proposed method.

INSTITUT TEKNOLOGI NASIONAL YOGYAKARTA
Technopreneur In Future Energy

SUPANDI STTNAS <supandi@sttnas.ac.id>

Submission Confirmation for OPENGEO-D-20-00084R1

Open Geosciences <em@editorialmanager.com> Fri, Aug 21, 2020 at 1:26 PM
Reply-To: Open Geosciences <opengeosciences@degruyteropen.com>
To: Supandi Supandi <supandi@sttnas.ac.id>

Ref.: Ms. No. OPENGEO-D-20-00084R1
GEOTECHNICAL PROFILING WITH 2D WENNER-SCHLUMBERGER CONFIGURATION ON MINE WASTE DUMP OF SURFACE MINE

Dear Mr Supandi,

Open Geosciences has received your revised submission.

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Kind regards,

Editorial Office Staff
Open Geosciences
https://www.editorialmanager.com/opengeo/

INSTITUT TEKNOLOGI NASIONAL YOGYAKARTA
Technopreneur In Future Energy

SUPANDI STTNAS <supandi@sttnas.ac.id>

Your PDF GEOTECHNICAL PROFILING WITH 2D WENNER-SCHLUMBERGER CONFIGURATION ON MINE WASTE DUMP OF SURFACE MINE has been built and requires approval

Open Geosciences <em@editorialmanager.com> Thu, Sep 24, 2020 at 8:31 PM
Reply-To: Open Geosciences <opengeosciences@degruyteropen.com>
To: Supandi Supandi <supandi@sttnas.ac.id>

Dear Mr Supandi,

The PDF for your submission, "GEOTECHNICAL PROFILING WITH 2D WENNER-SCHLUMBERGER CONFIGURATION ON MINE WASTE DUMP OF SURFACE MINE" is ready for viewing.

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Username: supandi@sttnas.ac.id
Password: https://www.editorialmanager.com/opengeo/l.asp?i=138132&l=VFADQRIB

Your submission must be approved in order to complete the submission process and send the manuscript to the Open Geosciences editorial office.

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SUPANDI STTNAS <supandi@sttnas.ac.id>

Submission Confirmation for OPENGEO-D-20-00084R2

Open Geosciences <em@editorialmanager.com> Thu, Sep 24, 2020 at 8:34 PM
Reply-To: Open Geosciences <opengeosciences@degruyteropen.com>
To: Supandi Supandi <supandi@sttnas.ac.id>

Ref.: Ms. No. OPENGEO-D-20-00084R2
GEOTECHNICAL PROFILING WITH 2D WENNER-SCHLUMBERGER CONFIGURATION ON MINE WASTE DUMP OF SURFACE MINE

Dear Mr Supandi,

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INSTITUT TEKNOLOGI NASIONAL YOGYAKARTA
Technopreneur In Future Energy

SUPANDI STTNAS <supandi@sttnas.ac.id>

Your Submission

Open Geosciences <em@editorialmanager.com> Wed, Oct 14, 2020 at 4:05 PM
Reply-To: Open Geosciences <opengeosciences@degruyteropen.com>
To: Supandi Supandi <supandi@sttnas.ac.id>

Ref.: Ms. No. OPENGEO-D-20-00084R2
GEOTECHNICAL PROFILING WITH 2D WENNER-SCHLUMBERGER CONFIGURATION ON MINE WASTE DUMP OF SURFACE MINE
Open Geosciences

Dear Mr Supandi,

On behalf of the Editors and Advisory Board of Open Geosciences, I extend my thanks for submitting your manuscript for our consideration. The manuscript has been reviewed and based on reviewers comments the editor of the respective field has decided that it requires revision.
Please resubmit a revised version together with a cover letter describing all changes made and explaining how you have followed the referees suggestions. The revision should be made by following point-by-point the comments given below. If you do not agree with the comments made or there are any suggestions you have not considered, we also welcome your detailed justification.

In addition to the editorial remarks, please take care that you have prepared the revised version according to the Journal's style - by carefully following the points indicated in our Guide for Authors at: http://www.degruyter.com/view/supplement/s23915447_Instruction_for_Authors.pdf

Please submit your revised version as soon as possible, no later than by 2020/10/24.

To submit a revision, go to https://www.editorialmanager.com/opengeo/ and log in as an Author. You will see a menu item call Submission Needing Revision. You will find your submission record there.

Yours sincerely,

Jan Barabach, Ph.D.
Managing Editor
Open Geosciences

Reviewers' comments:

Reviewer #1: In the second revised version the manuscript has been slightly further improved. The explanations which have been provided by the authors in their response do not cover the major concerns of the reviewers.
1. The explanation which has been added in [Lines 142-146] does not cover my comment referring to the research questions as well as the original contribution of the work, comparing to other previous works.
2. The description which has been added in [Lines 73-91] does not include a more in-depth theoretical and quantitative analysis.
3. An analytical explanation of the experimental design has not been provided. The discussion in [Lines 106-111] on the correlation between the measurement value from and the field conditions at several outcrops does not give an adequate explanation.
4. The validation of the applied analysis has not been provided. The discussion in [Lines 106-111] does not cover the validation of the analysis
5. The practical considerations of the research are not fully addressed. The explanation which has been added in [Lines 309-313] does not provide enough data region arding the practical application of the research.
6. The conclusions have not significantly improved.

In conclusion, a more in-depth theoretical and quantitative analysis is needed. In addition, a better justification of the results in relation to the technical characteristics of the investigated area should be provided, incorporating the geological information into the analysis.

Reviewer #2: Dear authirs. I inform you that my comments have been answered.

INSTITUT TEKNOLOGI NASIONAL YOGYAKARTA
Technopreneur In Future Energy

SUPANDI STTNAS <supandi@sttnas.ac.id>

Your PDF GEOTECHNICAL PROFILING WITH 2D WENNER-SCHLUMBERGER CONFIGURATION ON MINE WASTE DUMP OF SURFACE MINE has been built and requires approval

Open Geosciences <em@editorialmanager.com> Sat, Oct 17, 2020 at 9:27 PM
Reply-To: Open Geosciences <opengeosciences@degruyteropen.com>
To: Supandi Supandi <supandi@sttnas.ac.id>

Dear Mr Supandi,

The PDF for your submission, "GEOTECHNICAL PROFILING WITH 2D WENNER-SCHLUMBERGER CONFIGURATION ON MINE WASTE DUMP OF SURFACE MINE" is ready for viewing.

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Please go to https://www.editorialmanager.com/opengeo/ to approve your submission.

Username: supandi@sttnas.ac.id
Password: https://www.editorialmanager.com/opengeo/l.asp?i=141675&l=XHEFNTPT

Your submission must be approved in order to complete the submission process and send the manuscript to the Open Geosciences editorial office.

Please view the submission before approving it to be certain that your submission remains free of any errors.

Thank you for your time and patience.

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INSTITUT TEKNOLOGI NASIONAL YOGYAKARTA
Technopreneur In Future Energy

SUPANDI STTNAS <supandi@sttnas.ac.id>

Submission Confirmation for OPENGEO-D-20-00084R3

Open Geosciences <em@editorialmanager.com> Sat, Oct 17, 2020 at 9:29 PM
Reply-To: Open Geosciences <opengeosciences@degruyteropen.com>
To: Supandi Supandi <supandi@sttnas.ac.id>

Ref.: Ms. No. OPENGEO-D-20-00084R3
GEOTECHNICAL PROFILING WITH 2D WENNER-SCHLUMBERGER CONFIGURATION ON MINE WASTE DUMP OF SURFACE MINE

Dear Mr Supandi,

Open Geosciences has received your revised submission.

You may check the status of your manuscript by logging onto Editorial Manager at https://www.editorialmanager.com/opengeo/.

Kind regards,

Editorial Office Staff
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INSTITUT TEKNOLOGI NASIONAL YOGYAKARTA
Technopreneur In Future Energy

SUPANDI STTNAS <supandi@sttnas.ac.id>

Your Submission

Open Geosciences <em@editorialmanager.com> Tue, Feb 9, 2021 at 7:49 PM
Reply-To: Open Geosciences <opengeosciences@degruyteropen.com>
To: Supandi Supandi <supandi@sttnas.ac.id>

Ref.: Ms. No. OPENGEO-D-20-00084R3
GEOTECHNICAL PROFILING WITH 2D WENNER-SCHLUMBERGER CONFIGURATION ON MINE WASTE DUMP OF SURFACE MINE
Open Geosciences

Dear Mr Supandi,

I am pleased to tell you that your work has now been accepted for publication in Open Geosciences.

It was accepted on 2021/02/09

Thank you for submitting your work to this journal.

With kind regards,

Jan Barabach, Ph.D.
Managing Editor
Open Geosciences

Response by Authors to Reviewer's Remarks/Comments

GEOTECHNICAL PROFILING WITH TWO DIMENSIONAL WENNER-SCHLUMBERGER CONFIGURATION ON MINE WASTE DUMP OF SURFACE MINE - Geotechnical Profiling on Mine Waste Dump

Authors: Supandi

The authors have summarized their replies to the Reviewers' comments in this response letter in a two column format. A revised manuscript is submitted addressing all the comments to the Journal of Open Geoscience for possible publication.

No	*Editor's Comments*	*Authors Response*
Reviewer #1		
1	The main purpose of the manuscript is to describe the investigation results regarding the profile in a surface mining area using the Wenner-Schlumberger geoelectrical method.	Thank you for your comment. The research used Wenner-Schlumberger method. This method can be cover up to 100m material on waste dump.
2	The analysis is based on the technical description of the method and the results focus on the stratigraphy profile considering specific cross sections. From the overall presentation I would say that an interesting applied work has been done.	Thank you for your comment. The research aims to determine stratigraphic profile of mine waste dump material. Commonly, material on waste dump is assumed homogenous due to very difficult to determine stratigraphic.
3	**However, many major concerns arise regarding the manuscript:** In its current form the manuscript is difficult to read. Many sentences need to be clarified.	Improvement related to the quality of manuscript has been completed. Native speaker has been well applied and certificate is attached.
4	The theoretical analysis is poor. A more in-depth quantitative analysis is needed.	This research focused on experimental analysis to determine stratigraphy on high mine waste dump. The research was carried out with make empirical analysis regarding value resistivity on theory and actual resistivity on field compared with visual observation on some outcrop on mine waste dump.
5	The research questions as well as the original contribution of the work, comparing to other previous works are not adequately presented. In this framework, a more critical review of previous work is required. In addition, more recent research papers need to be discussed.	Additional references have been added to the manuscript. Generally, geotechnical analysis on mine waste dump is carried using homogenous material on the mine waste dump material due to difficult to determinate profiling mine waste dump material. Additional reference related it has been applied on the manuscript.
6	A better description of the target area is needed. Furthermore, the technical characteristics of investigated area should be clarified, incorporating the geological information. The in pit dumping data need to be better explained.	Description of the target area, including the geological condition, has been explained in the introduction. Mine waste materials consist of sand-to-boulder sized material and minor clay sized material.

7	From an engineering point of view, an analytical explanation of the experimental design in relation to the geological and mining conditions as well as to the mineral deposit characteristics should be given.	The result of this analysis is required for geotechnical analysis. Detailed geotechnical analysis will improve safety and operation of mining. The result has no direct impact for mining operation, but it has direct impact for geotechnical analysis.
8	A further analysis of the data is needed.	The analysis is limited to show a good interpretation of mine waste material profiling. The result of the analysis may help detailing other analysis that is geotechnical analysis.
9	A further interpretation of the results is needed. The results are not clearly related to the geotechnical analysis. In addition, the results need to be discussed in relation to the parameters of the slope stability analysis.	Explanation of the result has been put for each section and its relation to geotechnical analysis has also been described in the conclusion.
10	The coupling between the theoretical and the experimental analysis is missing.	The theory has been put in the manuscript and the research is briefer related to experimental analysis. Determination value for each layer didn't calculate by theoretical and the experimental has been clear determination value of resistivity based on field condition (empirical). The research was carried out with make empirical analysis regarding value resistivity on theory and actual resistivity on field compared with visual observation on some outcrop on mine waste dump.
11	The uncertainties of the analysis are note described in the text.	The uncertainty has been described in the results and discussion.
12	**Additional comments and recommendations for the improvement of the manuscript:** General notes. The English language should be significantly improved throughout the manuscript. There are numerus mistakes in the use of English which should be corrected. It is advisable to have the manuscript read by a native speaker.	English has been improved and proofread by a native speaker. The revision of manuscript has been evaluate by native speaker with certificate is attached.
13	The methods should be described in a more efficient way. Figures 2 and 3 are not mentioned in the text. The same pattern of references should be followed within the text.	Explanation for the method has been improved. All figures has been ensured to have been mentioned in the text.
14	**Abstract** The abstract needs to be improved based on the research questions, the methods and the results. Introduction, General notes: The introduction does not provide sufficient background information on the topic. The research questions should be clearly described. More research papers on the topic should be also discussed.	Abstract has been improved based on reviewer's feedback. Additional background and purpose has been clearly described. The introduction has been revised and the additional references have been added.
15	A more detailed geological description of the research area should be added.	Required information of geological condition in general has been added to the manuscript in the introduction.

16	[Lines 57-67] A more critical explanation of the factors could be added.	Additional explanation has been completed.
17	[Fig. 2] This needs to improve showing the research area. A legend is missing.	Quality of picture has been improved and additional legend has been added.
18	[Fig. 3] It also needs to improve in relation to the target area.	The target area is on the blue box and legend has been added
19	**2. Materials and Method** General note: The theoretical analysis is poor. A further justification regarding the selection of the geoelectrical method needs to be provided. In this section a further analysis is also required. The coupling between the theoretical and the experimental analysis should be described. - The experimental design needs to be discussed and justified. - The equations need to be numbered.	Thank you for your feedback. Theoretical as well as experimental analysis has been described in the manuscript. Standard experimental analysis has also been explained in the manuscript. The analysis is intentionally limited to profile mine waste material which may help detailing further analysis. The equation has been numbered. Application geoelectric to make stratigraphic is required due to ; 1. Simple method compares other method reach long area. One section geoelectric can cover up to 1 1km and depth up to 100m. 2. Data acquisition is very fast. 3. Processing data is very quick to make interpretation result. 4. Low cost 5. Enough to determine characteristic mine waste dump material. The research was carried out with make empirical analysis regarding value resistivity on theory and actual resistivity on field compared with visual observation on some outcrop on mine waste dump.
20	Results and Discussion General note: In this section a further analysis of the results is needed.	Additional explanation has been put in the manuscript especially on discussion section.
21	Conclusion General note: This section should focus on the original contribution of the research as well as on the research results based on the research questions.	Additional explanation regarding to this research has been added to the manuscript.
Reviewer #2		
1	Abstract: The abstract must contain a sentence that contextualizes the work; show its importance and relevance. It is necessary to highlight the objectives of the manuscript. The concluding sentence needs to be improved.	The abstract has been improved especially on background, objective, and method. Re-draf abstract has be done and thus manuscripts have been checked by native speaker.
2	Introduction: The item needs to be referenced. Does Figure 1 belong to the author? There are many concepts presented without reference. It is necessary to add (current) works that contribute to the research presented and justify it.	Citations for Figure 1 as well as the concepts have been mentioned. Summary of the other works related to this topic has also been added in the introduction.

	How relevant is it? Does it seek to answer or answer any inconsistencies? It is necessary to present in the last paragraph the clear objectives and the (summarized) methods for achieving them. Figures 1 and 2 are not referenced in the text. Figure 2 needs to have in the caption made explicit what data and scale are being presented.	Figure 1 and Figure 2 has been mentioned in the text. Legend on Figure 2 has also been completed. Additional explanation has been added also into manuscripts.
3	Materials and Methods: Formulas must be written in the manuscript and not presented as Figures.	Formula has been written in the manuscript as an equation, no longer as a figure.
4	Figure 4 has poor resolution.	Improvement quality of Figure 4 has been carried out.
5	Figure 5 needs to present the caption. Is it possible to present a plan with the definition of the places where the presented methods were executed? Was there any premise for using them? It was missing to inform the characteristics of the analyzed sections, characteristics of the geological materials found, etc. Was there a direct investigation to prove the subsurface materials? If so, which ones?	Figure 5 explains the theory of Wenner-Schlumberger method and the data acquisition using this method. Data processing also follows the standard of Wenner-Schlumberger method. Number resistivity will be evaluate based on some out crop along section so determination range for each stratigraphy on mine waste dump material based on evaluate resistivity number and visual observation. This method is clear to make interpretation subsurface characteristics on mine waste dump material.
6	Results and Discussions: Figures 6 to 11 are not referenced in the text. Their captions need to inform which method is being presented. A map with the location of these sections would be interesting. The data in general is being presented. However, they still need to be discussed with papers in the scientific literature. As the data is presented, the manuscript is similar to a technical report.	Figure 6 to 11 has been mentioned and explained in the manuscript. The analysis used Wenner-Schlumberger method. Figure 6 to 8 are the inversion result, while Figure 9 to 11 are the interpretation result.
7	Conclusions: I suggest that after completing the comments in the previous items, the conclusion should be rewritten.	Conclusion has been revised.
Reviewer #3		
1	The paper is not well prepared and there are a lot of critical shortages. The manuscript has certainly potential to improve. In my humble opinion, if the manuscript is thoroughly revised and reorganized, it can make a good publication. To help improve the quality of this manuscript, I have added more comments bellow	Thank you for your feedback. Major improvement has been carried out to meet good paper quality.
2	I suggest changing the title to "GEOTECHNICAL PROFILING WITH 2D WENNER-SCHLUMBERGER	The title has been changed to "Geotechnical Profiling with 2D Wenner-Schlumberger Configuration on Mine Waste Dump of Surface Mine"

	CONFIGURATION ON MINE WASTE DUMP OF SURFACE MINE"	
3	Check spaces throughout all paper (a lot of connected words in the text...)	Spaces have been checked and corrected.
4	Figure 5,6,7 missing unit.	Legend on the figure 5,6,7 has been completed.
5	Expand "References" with more new references and similar examples worldwide.	Additional references have been added.
6	In the chapter "Introduction" expand on the application of mapping to similar examples from the literature.	Has been added in introduction section and
7	In the chapter "Materials and Method" it is necessary to describe in detail with mathematical expressions all the calculations that are used to calculate the variables. With references and corresponding designations and units.	This research is experimental method based on Wenner-Schlumberger method and the theory, including mathematical explanation, refers to this method.
8	The "Results and Discussion" section should describe the advantages and disadvantages of this type of mapping. What are future system improvements, future research etc.	The advantages and disadvantages have been described in the last paragraph. For future research, it has been mentioned in the conclusion.
9	In the chapter "Conclusion" it is stated in the order for this case study, what about the universal application of this method, that it can be applied to similar examples in the world? Recommendations for measuring, making maps, etc.	The method is a universal method that can be used elsewhere. The explanation about this has been added in the text.
10	Recommendations for measuring, making maps, etc.	It has been added in the last paragraph of the conclusion.
11	L14 delete: "Data processing using Res2Dinv software."	The sentence has been corrected to “data was processed using RES2DINV software".
12	L26 "…classified into 3 types:" -> …classified into 3 types [1]:	It has been corrected based on reviewer’s suggestion.
13	L31 delete [1]	It has been corrected.
14	L46 "(Dona, Akmam, & Sudiar, 2015)" -> delete	It has been deleted.
15	L88 "Res2Dinv software" -> Producer? Full name of product?	RES2DINV is the name of the software.
16	L90 "ASTM D7852 - 13" -> Producer? Full name of product?	It has been corrected using full name: American Society for Testing and Material.
17	L97 From Figure 4, extract a mathematical expression, with the appropriate citation, and print the labels with the appropriate units. Insert into text before Figure 4.4	Figure 4 has been edited.
18	L101 Write the formula in a mathematical program, with the appropriate notation and units.	The formulas has been written using equation editor.

19	L109 "using mathematical calculations" -> what these expressions are and where they have been explained before.	It refers to the mathematical calculation that the software has, to process the data with several inversions. It has been clearly mentioned in the text.
20	L110 What is "pseudo data"?	Pseudo data is original data based on field measurement before data processing.
21	L111 What is "calculated data"?	Calculated data is data that appears after data processing by geoeletric software.
22	L111 What is "inverted"? why that is better for mapping?	It refers to the inversion process that allows the discovery of data error to produce better map quality.
23	L134 Why "Seven times iteration"?	Multiple iterations in inversion process is required to improve the quality of analysis result. In this research case, seven times iteration is enough to obtain accepted error value that is less than 30%.
24	L135 What is "error value"? Which is a mathematical expression and literature (comparison of results).	Error value is outside-range value that may be obtained in field measurement.
25	L149 Mpa?	It has been corrected to MPa for megapascal.
Reviewer #4		
1	This paper provided substrata profiling of disposal material using geoelectrical method. The interpretation of the subsurface cross-section showed 3 layers consisted of bed rock, contact zone, and disposal material layer. The paper has a very good novelty and can be published after considering all the comments given..	Thank you for your comment.
2	Besides, it is suggested that the authors after addressing all the comments in the revised manuscript to send it for proofreading in order to polish all the grammatical and typo errors existing within this manuscript. The following points shall be addressed in the revised manuscript before it can be considered for publication: Title: Please maintain only one title. Why do you have to titles? The title should be meaningful and represents the content of the paper. Please revise it. The title should be re-written as "Geotechnical profiling with two-dimensional wenner-schlumberger configuration on mine waste dump of surface mine"	The grammatical and typo errors have been corrected. Only one title has been maintained. The title is “Geotechnical Profiling with 2D Wenner-Schlumberger Configuration on Mine Waste Dump of Surface Mine”.
3	Abstract: The abstract has some flaws. It should contain a background, brief explanation of problem statement, objectives, methodology and main results. Please revise to ensure putting all those mentioned earlier.	Abstract has been improved based on reviewer’s feedback. Additional background and purpose has been clearly described. The introduction has been revised and the additional references have been added

4	Please do the following amendments. In page 2 line 7, please re-write the phrase "It assumed that the" as "It is assumed that the".	The phrase has been re-written.
5	In page 2 line 14, please provide spacing between the numbers and the units in the quoted phrase "130m and thickness around 50m".	The spaces have been corrected.
6	In page 2 line 14, please re-write "Data processing using Res2Dinv software" as "the data was processing using Res2Dinv software".	The sentence has been re-written to “data was processed using RES2DINV software”.
7	In page 2 lines 15 and 16, please re-write in lower case "Contact 16 Zone, and Disposal Material layer".	The words have been changed to be in lower case.
8	Introduction: 1. The paper has only 10 references and most of them are dated, it is suggested to include more recent papers. The literature is not critically reviewed, please include a critical and detailed review on slope stability analysis and also the main topics of this paper. You may cite the following recent papers and more:	Additional references have been added in the manuscript.
9	Please consider the following points: 2. In page 3 lines 25-31, please re-write in a paragraph form. It is not advisable to write in a point form within the introduction.	The sentences have been re-written in a paragraph.
10	3. In pages 3 line 46, please ensure that you use the proper citation of Open Geosciences Journal. Do not combine both alphabetical and numerical systems as quoted here "(Dona, Akmam, & Sudiar, 2015)[5]".	It has been corrected.
11	3. In pages 4 and 5 lines 57-67, please re-write in a paragraph form. It is not advisable to write in a point form within the introduction.	The sentences have been re-written in a paragraph.
12	4. In page 5 lines 74, the word "and" was repeated twice.	It has been corrected.
13	5. In pages 5 and 6, Figures 2 and 3 were not mentioned within the text. Besides, for Figure 1, it was mentioned within the text, but it was written as "Fig. 1". Please be consistent and use either Figure of Fig.	All figures has been ensured to have been mentioned in the text as “Figure”.
14	6. The last paragraph of the introduction should clearly highlight the objective and the novelty of the manuscript.	This research focused on experimental analysis to determine stratigraphy on high mine waste dump. The research was carried out with make empirical analysis regarding value

		resistivity on theory and actual resistivity on field compared with visual observation on some outcrop on mine waste dump.
15	Materials and Method The methodology is not clear and should be re-written. Please provide photos of the studied site and also for the methodologies adopted for better understanding. Please try to relate with the slope stability profiling which is the main topic of this paper.	Photo of the studied site has been provided.
16	Results and Discussion 1. In page 9 lines 137-143, please justify your findings and cite published research to support your findings.	The finding has been justified in the last paragraph of the result and discussion.
17	2. For Figures 6-8, please label the vertical and horizontal axis. Also, provide a proper legend to easily understand the different colors in the Figures.	Legend of figure has been added and basically horizontal and vertical axis has been appear on the original program.
18	3. In page 9 lines 144-150, please justify your findings and cite published research to support your findings.	The finding has been justified in the last paragraph of the result and discussion.
19	4. In Figures 9-11, why the strata started upside down. For example, bed rock was in the top and the disposal material was in the bottom. Kindly clarify that.	Original topography was inclined about 14° and construction mine waste dump has been reached about 60 m thickness. Dumping has been carried out started on the bottom going up to the upper part. This has been stated in the sentences right before the figures.
20	Conclusion Conclusion is written in short point form; need to clearly explain the findings in the conclusion not just provide short sentences as it currently reads. Authors also need to edit the whole paper to avoid any typos	The conclusion has been edited. The typos have been corrected.
Reviewer #5		
1	The author has studied the geotechnical profiling on surface mine waste dump using 2D wenner-schlumberger configuration. The subject is relevant to the scope of the journal and the work is original. The paper is recommended for publication after addressing the following comments and MAJOR REVISION	Major revision has been carried out based on reviewers' suggestions.
2	The abstract structure is NOT suitable; it is expected the standard structure of abstract to be followed and the quantity results MUST be explained.	Additional result related quantification resistivity number for each profile material on mine waste dump.
3	The literature review is not complete. The journal papers relevant to the author's work should be addressed. Introduction can be	Newest references have been added.

	extended and MORE and NEWEST references should be added.	
4	The author should clearly mention weaknesses and limitations of the proposed method.	Weakness and limitation have been mentioned in the manuscript.

The authors appreciate the valuable comments from the Reviewers

Yours sincerely,

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Response by Authors to Reviewer's Remarks/Comments

GEOTECHNICAL PROFILING OF A SURFACE MINE WASTE DUMP USING 2D WENNER-SCHLUMBERGER CONFIGURATION

Authors: Supandi

The authors have summarized their replies to the Reviewers' comments in this response letter in a two column format. A revised manuscript is submitted addressing all the comments to the Journal of Open Geoscience for possible publication.

No	*Editor's Comments*	*Authors Response*
Reviewer #1		
1	In the revised version the manuscript has been slightly improved. The major concerns of the reviewers have not been covered. I think that the additional explanations which are provided in the cover letter and the revised version are not adequately justified. As I have pointed out in the first round review, the authors should focus on the research questions, the justification of the experimental design, as well as the coupling between the theoretical analysis and the case study. In this framework, I would expect a better justification of the results in relation to the technical characteristics of the investigated area, incorporating the geological information into the analysis.	The research question has already been stated in **[Line 5-9]** that is how to map subsurface conditions precisely and comprehensively. The explanation is in the introduction with additional paragraph in **[Line 27-30]**. The experimental design combines theory and actual condition of the field in which each location has their own characteristic. By conducting experiment on the resistivity of mine waste dump combined with observation of the outcrop, the layer of material on the body of the pile can be interpreted. The explanation is in **[Line 155-158]**. The explanation about coupling between the theoretical analysis and the case study is already in the manuscript, especially in **[Line 248]** and so on.
2	The research questions as well as the original contribution of the work, comparing to other previous works are not adequately presented.	Similar researches have been applied using the same method but the range value is different in one location to another. This is due to the condition of the material at each site based on its geological and hydrogeological conditions as well as the fragmentation. The range approach from previous researchers cannot be applied to this location, so an empirical approach is required to obtain the optimum range. This explanation has been added in **[Line 142-146]**.
3	A more in-depth theoretical and quantitative analysis has not been added.	More in-depth theoretical and quantitative analysis has been added in to the manuscript in **[Line 73-91]**.
4	An analytical explanation of the experimental design is needed.	It has been explained in the manuscript how the correlation between the value from measurement and based on the field conditions at several outcrops is in **[Line 106-111]**.
5	The validation of the applied analysis is missing.	Validation was carried out using an empirical approach that compares the measurement results with actual conditions based on visual observation at several outcrops. It is already described in the manuscript **[Line 106-111]**.

6	The practical considerations of the research are not fully addressed.	This research helps in profiling waste dump material, so when conducting slope stability analysis, the analysis will be very detailed and it is very useful in hydrological modeling. Indeed, this research has not reached neither slope stability analysis nor hydrological modelling, but theoretically with a more detailed stratigraphy, the quality of the analysis will be better. This explanation has been added into the manuscript **[Line 309-313]**.
7	The conclusions need to be improved.	The conclusion was improved based on suggestions from reviewers.
8	The title could be further improved: "Geotechnical Profiling of a Surface Mine Waste Dump using 2D Wenner-Schlumberger Configuration".	The title has been changed according to the suggestion: "Geotechnical Profiling of a Surface Mine Waste Dump using 2D Wenner-Schlumberger Configuration" **[Line 1-2]**.
9	[Line 10] "therefore"?	The aim of the research is related to the background problem mentioned in the previous sentences. To make it clear, “therefore” has been deleted and replaced by “with this in mind” at the beginning of the sentence **[Line 10]**.
10	[Line 13] "based on an empirical number"?	Empirical number is a number obtained based on experience from experiment or observation that have been made. Resistivity value of an area really depends on characteristics of the constituent material, so determining the resistivity value depends on the result reading compared to the actual condition in the field. This is what is meant by “based on an empirical number”. Additional description has been added to the sentence in **[Line 13-14]**.
11	[Lines 13-14] "with an estimated height of 130 m and a thickness of 50 m" The thickness needs to be clarified in the text.	The height should be 150 m, not 130 m. The thickness has been mention in **[Line 139]** and **[Line 198]**.
12	[Line 17] "which were used in slope stability analysis" The stability analysis is not described in the manuscript.	It should be “which can be used for slope stability analysis” **[Line 18]**. Mine waste dump stratigraphy profiling is really helpful for slope stability analysis.
13	[Line 41] "however"?	It has been removed from the sentence [**Line 45]**.
14	[Line 62] "The pH"	The capital letter has been corrected [**Line 66]**.
15	[Line 71] "the slope of mine waste dump has been reported" ? A further description is needed in relation to the analysis.	“The slope of mine waste dump that has been reported in many studies” is what the author means **[Line 93-94]**.
16	[Lines 81-83] "The layering material used….is very difficult" A clarification is needed.	Analysis on mine waste dump usually assumes homogeneous material because of the difficulty in building a model for the distribution of layers formed due to mine waste dumps. More effort is required in determining the stratigraphic profile such as using this geophysical method. Using drilling requires a large number of points to correlate the distribution of mine waste dump material. This means that it is very difficult to build a model of the distribution or the material layer in a mine waste dump. The clarification is added in **[Line 105-106]**.
17	[Line 84] "without focusing on each"?	Measuring the material resistivity can help stratigraphic profiling of mine waste dump material because it does not focus on just one point such as drilling, but in one measurement, it gets a wide area coverage, so it is very helpful in profiling. If drilling is used, the result is only focus at that point, while to make profiling requires a very large number of

		points. Resistivity, in one application, can reach 450 m with a depth of up to 80 m. The words ("without focusing on each") have been deleted from the sentence because they are already represented by "covers a wider area compared to the drilling method which is specific on one point" at the end of the sentence **[Line 108-109]**.
18	[Line 86] "the resistivity method requires an empirical analysis" A clarification is needed.	Resistivity method can be helpful in profiling but to determine the resistivity value, it must be evaluated based on the field condition to compare the value with the actual value in the field. This comparison of measurements at each location is what is meant by empirical analysis. The resistivity value is influenced by the lithology, the water inside the material, and also the characteristic of the existing water such as fresh, brackish, or salty. Theoretically, it is very difficult to determine the range of resistivity value for certain condition. By conducting the empirical analysis, the range of resistivity value will be obtained for the mine waste dump material. The clarification has been added to the sentence in **[Line 110-111]**.
19	[Line 89] "The disposal of overburden and waste rocks" The overburden are also waste material.	The conjunction "and" has been replaced with "or" in **[Line 114]**.
20	[Line 91] "needed for the materials"?	Land requirement for material placement is highly dependent on its stability. The more the slope is upright, the capacity will increase, and the land requirement will decrease. If the slope is low, the capacity will decrease, so it will require more area at the same volume. Additional sentence is added in **[Line 116-117]**.
21	[Line 94] "however"?	It has been removed from the sentence.
22	[Line 109] "thickness estimated to be 50 m"	Thickness value is obtained based on the interpretation of resistivity value. It is not an absolute value resulted from a measurement, so it is more suitable to use the term "estimate".
23	[Figure 3] The study area should be added in the legend.	Figure 3 has been edited **[Line 138]**.
24	[Lines 124-125] "The layering determined…on the field using empirical analysis" A clarification is needed	Determination of the layer in waste dump material was carried out by comparing the resistivity value, which is the result reading, with the real condition of the material exposed derived from visual description of several outcrops. By comparing this, criteria for each layer was determined based on the resistivity value. The sentence has been replaced by this explanation **[Line 158-161]**.
25	[Line 132] "derermine"?	It has been corrected to "determined" **[Line 168]**.
26	[Line 139] "The data were on the field"? An explanation is needed.	It should be "The data were obtained from the field" **[Line 174]**.
27	[Line 145] "the application of mathematical calculation" Please see the comments of the reviewers.	RES2DINV software helps in the process of analyzing raw data resulted from the measurement in the field into informative analysis results that interpretation can be made. The sentence has been edited **[Line 180-181]**.
28	[Lines 192-195] "The profile was determined…..figures" This sentence needs to be improved.	Determination of the stratigraphic profile was carried out by linking the resistivity value in a certain range. Each range will be assumed to have the same characteristics so it will be the same layer. Every change in the resistivity value will be shown in a resistivity contour where each change shows different color. The sentence has been replaced by this explanation **[Line 230-233]**.
29	[Lines 202-203] "in accordance with the field condition with in-situ	In-situ rock is visible at the toe of the slope so the waste dump material appears to be hanging on the slope. This is due to

	rocks…"A further explanation is needed.	hoarding carried out not on a flat plane but on a sloping topography. This explanation has been put in **[Line 243-245]**.
30	[Lines 237-238] "in accordance with the plan" A further explanation is needed. In conclusion, the analysis needs to be significantly improved and further in-depth analysis is needed.	The interpretation result shows that the disposal construction is in accordance with the plan where the contact zone is composed of coarse and large sized (boulder) material so the porosity is high.
Reviewer #2		
1	Dear authors. I inform you that the comments below were not considered in your analysis. **Intoduction:** Figures 2 and Figure 3 are not referenced in the text.	The references have been added in **[Line 113]** and **[Line 139]** for Figure 2 and Figure 3 respectively.
2	Figure 2 needs to have in the caption made explicit what data and scale are being presented.	Figure 2 is conceptual and scale-less. The dimension is very dependent on material characteristics and other factors.
3	Figure 3 reference?	The references has been added in **[Line 139]**.
4	**Materials and Method:** Formulas must be written in the manuscript and not presented as Figures.	The formula is written as equation using equation tool in Ms. Word and not presented as figure. It is probably seen as figure when the file is not opened by Ms. Word.
5	Figure 5 needs to present the caption	The caption is already presented.
6	Is it possible to present a plan with the definition of the places where the presented methods were executed?	Yes, it is possible.
7	Was there any premise for using them?	As explained in the manuscript, the resistivity value has its own characteristics related to the lithology, the mechanical and physical properties of the material, as well as the hydrogeology, so displaying the location is very important to provide an overview of geological conditions in general.
8	It was missing to inform the characteristics of the analyzed sections, characteristics of the geological materials found, etc.	The characteristics are already described in the manuscript **[Line 246-262]**.
9	Was there a direct investigation to prove the subsurface materials? If so, which ones?	Yes, by comparing the reading result of the resistivity values with the actual conditions in the field at several outcrops, so the measurement results will be validated. This explanation is already in the manuscript, especially the profiling validation in **[Line 106-111]**.
Reviewer #4		
	I still think that your literature review is poor and the justification of the results shall cite existing literature. Please do critical review of relevant topics related to your study and consider the ones highlighted in my previous review for your paper.	Some additional references have been added. In the previous research, resistivity of gravel material ranges from 400-100 Ωm, while in this research, resistivity of sand-gravel material is 0.1-30 Ωm for medium dense material and 30-50 Ωm for dense material. In previous research, bedrock has a resistivity value of 70-500 Ωm, however in this research, resistivity value of >50 Ωm has shown a bedrock layer. This explanation has shown that the critical review of previous research and the deviation of reading between the literature and the measurement result have been included in the manuscript. **[Figure compared with Line 246-262]**.

The authors appreciate the valuable comments from the reviewers.

Yours sincerely,

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Response by Authors to Reviewer's Remarks/Comments

GEOTECHNICAL PROFILING WITH 2D WENNER-SCHLUMBERGER CONFIGURATION ON MINE WASTE DUMP OF SURFACE MINE - Geotechnical Profiling on Surface Mine

Authors: Supandi

The authors have summarized their replies to the Reviewers' comments in this response letter in a two column format. A revised manuscript is submitted addressing all the comments to the Journal of Open Geoscience for possible publication.

No	*Editor's Comments*	*Authors Response*
Reviewer #1		
1	The main purpose of the manuscript is to describe the investigation results regarding the profile in a surface mining area using the Wenner - Schlumberger geoelectrical method.	Thanks for your comment. The research using Wenner-schlumber method
2	The analysis is based on the technical description of the method and the results focus on the stratigraphy profile considering specific cross sections. From the overall presentation I would say that an interesting applied work has been done.	The research to determine stratigraphy profile for mine waste dump material.
3	**However, many major concerns arise regarding the manuscript:** In its current form the manuscript is difficult to read. Many sentences need to be clarified.	Improvement related quality of manuscript to make reader has been
4	The theoretical analysis is poor. A more in-depth quantitative analysis is needed.	This research is focusing on experimental analysis to determine stratigraphy on high mine waste dump.
5	The research questions as well as the original contribution of the work, comparing to other previous works are not adequately presented. In this framework, a more critical review of previous work is required. In addition, more recent research papers need to be discussed.	Additional reference has been added to the manuscripts.
6	A better description of the target area is needed. Furthermore, the technical characteristics of investigated area should be clarified, incorporating the geological information. The in pit dumping data need to be better explained.	Geological condition has been explained. Mine waste material is consist material sand to boulder with size 2mm – 1000m and minor clay size.
7	From an engineering point of view, an analytical explanation of the experimental design in relation to	Analysis result is required for geotechnical analysis. Detailing geotechnical analysis will improvement mining safety and

	the geological and mining conditions as well as to the mineral deposit characteristics should be given.	operation. The result no direct impact for mining operation but direct impact to geotechnical analysis.
8	A further analysis of the data is needed.	Analysis has showing good interpretation profiling mie waste material.
9	A further interpretation of the results is needed. The results are not clearly related to the geotechnical analysis. In addition, the results need to be discussed in relation to the parameters of the slope stability analysis.	Explanation each section has been put at the manuscripts.
10	The coupling between the theoretical and the experimental analysis is missing.	The theorical has been put at the manuscript and the research more brief related experimental
11	The uncertainties of the analysis are note described in the text.	
12	**Additional comments and recommendations for the improvement of the manuscript:** General notes. The English language should be significantly improved throughout the manuscript. There are numerus mistakes in the use of English which should be corrected. It is advisable to have the manuscript read by a native speaker.	English has been improved and proof reading by native speaker has been carried out.
13	The methods should be described in a more efficient way. Figures 2 and 3 are not mentioned in the text. The same pattern of references should be followed within the text.	Figure 2 and figure 3 has been mentioned on the manuscript especially for lines xxx
14	**Abstract** The abstract needs to be improved based on the research questions, the methods and the results. Introduction, General notes: The introduction does not provide sufficient background information on the topic. The research questions should be clearly described. More research papers on the topic should be also discussed.	Abstract has been improved based on reviewer's feedback. Additional background and purposes has been clearly described.
15	A more detailed geological description of the research area should be added.	General geological condition has been add to the manuscripts especially line.
16	[Lines 57-67] A more critical explanation of the factors could be added.	Additional explanation on the lines 56-57 has been be finished.
17	[Fig. 2] This needs to improve showing the research area. A legend is missing.	Quality of picture has been improved and additional legend has been applied.
18	[Fig. 3] It also needs to improve in relation to the target area.	Target area on the blue box and additional legend has been added.

19	**2. Materials and Method** General note: The theoretical analysis is poor. A further justification regarding the selection of the geoelectrical method needs to be provided. In this section a further analysis is also required. The coupling between the theoretical and the experimental analysis should be described. - The experimental design needs to be discussed and justified. - The equations need to be numbered.	Thanks for your feedback, Theoretical and experimental has been described at the manuscripts. Standard experimental is also has been explained at the manuscripts
20	Results and Discussion General note: In this section a further analysis of the results is needed.	Has been put at the manuscripts
21	Conclusion General note: This section should focus on the original contribution of the research as well as on the research results based on the research questions.	Additional benefit regarding this research has been added to the manuscripts.
Reviewer #2		
3	Abstract: The abstract must contain a sentence that contextualizes the work; show its importance and relevance. It is necessary to highlight the objectives of the manuscript. The concluding sentence needs to be improved.	Abstract has been improved especially on background, objective, method, analysis.
	Introduction: The item needs to be referenced. Does Figure 1 belong to the author? There are many concepts presented without reference. It is necessary to add (current) works that contribute to the research presented and justify it. How relevant is it? Does it seek to answer or answer any inconsistencies? It is necessary to present in the last paragraph the clear objectives and the (summarized) methods for achieving them. Figures 1 and 2 are not referenced in the text. Figure 2 needs to have in the caption made explicit what data and scale are being presented.	Figure 1 and figure 2 has been mentioned on the manuscripts. Additional legend on figure 2 has been completed also.
	Materials and Methods: Formulas must be written in the manuscript and not presented as Figures.	
	Figure 4 has poor resolution.	Improvement quality figure 4 has been carried out.

	Figure 5 needs to present the caption. Is it possible to present a plan with the definition of the places where the presented methods were executed? Was there any premise for using them? It was missing to inform the characteristics of the analyzed sections, characteristics of the geological materials found, etc. Was there a direct investigation to prove the subsurface materials? If so, which ones?	Figure 5 is explain theoretical for Wenner-schlumber method method and data acquisition using this method. Processing data per standard Wenner-schlumber method also.
	Results and Discussions: Figures 6 to 11 are not referenced in the text. Their captions need to inform which method is being presented. A map with the location of these sections would be interesting. The data in general is being presented. However, they still need to be discussed with papers in the scientific literature. As the data is presented, the manuscript is similar to a technical report.	Figure 6 and figure 11 has been mentioned and explained at the manuscript.
	Conclusions: I suggest that after completing the comments in the previous items, the conclusion should be rewritten.	Modification conclusion has been carried per as reviewer comment above.
Reviewer #3		
1	The paper is not well prepared and there are a lot of critical shortages. The manuscript has certainly potential to improve. In my humble opinion, if the manuscript is thoroughly revised and reorganized, it can make a good publication. To help improve the quality of this manuscript, I have added more comments bellow	High appreciation for reviewer comment. Major paper improvement has been carried to meet high paper quality.
2	I suggest changing the title to "GEOTECHNICAL PROFILING WITH 2D WENNER-SCHLUMBERGER CONFIGURATION ON MINE WASTE DUMP OF SURFACE MINE"	Tittle has been changing to “Geotechnical Profiling with Two Dimension Wenner-Schlumberger Configuration on Mine Waste Dump of Surface Mine”
3	Check spaces throughout all paper (a lot of connected words in the text...)	Improvement has been carried out
5	Figure 5,6,7 missing unit.	Legend on the figure 5,6,7 has been completed.

6	Expand "References" with more new references and similar examples worldwide.	Additional reference has been added to improve paper quality
7	In the chapter "Introduction" expand on the application of mapping to similar examples from the literature.	
	In the chapter "Materials and Method" it is necessary to describe in detail with mathematical expressions all the calculations that are used to calculate the variables. With references and corresponding designations and units.	This research is experimental method based on Wenner-schlumberger method and theoretical refer this method.
	The "Results and Discussion" section should describe the advantages and disadvantages of this type of mapping. What are future system improvements, future research etc.	
	In the chapter "Conclusion" it is stated in the order for this case study, what about the universal application of this method, that it can be applied to similar examples in the world? Recommendations for measuring, making maps, etc.	
	Recommendations for measuring, making maps, etc.	
	L14 delete: "Data processing using Res2Dinv software."	The sentence has been corrected “Data processing using Res2Dinv software" as "the data was processing using Res2Dinv software
	L26 "…classified into 3 types:" -> …classified into 3 types [1]:	Has been corrected based on reviewer’s suggestion
	L31 delete [1]	Has been corrected.
	L46 "(Dona, Akmam, & Sudiar, 2015)" -> delete	Has been deleted
	L88 "Res2Dinv software" -> Producer? Full name of product?	Has been added full name software - RES2DINV - 2D Geophysical Inversion Software for Resistivity.
	L90 "ASTM D7852 - 13" -> Producer? Full name of product?	Has been correted using full name American Society for Testing and Material
	L97 From Figure 4, extract a mathematical expression, with the appropriate citation, and print the labels with the appropriate units. Insert into text before Figure 4.4	Has been mentioned at the manuscripts.

	L101 Write the formula in a mathematical program, with the appropriate notation and units.	
	L109 "using mathematical calculations" -> what these expressions are and where they have been explained before.	
	L110 What is "pseudo data"?	Pseudo data is original data based on field measurement before processing data is carried out.
	L111 What is "calculated data"?	Calculated data will appear after processing data using geoeletric software.
	L111 What is "inverted"? why that is better for mapping?	
	L134 Why "Seven times iteration"?	
	L135 What is "error value"? Which is a mathematical expression and literature (comparison of results).	
	L149 Mpa?	
Reviewer #4		
1	This paper provided substrata profiling of disposal material using geoelectrical method. The interpretation of the subsurface cross-section showed 3 layers consisted of bed rock, contact zone, and disposal material layer. The paper has a very good novelty and can be published after considering all the comments given..	
	Besides, it is suggested that the authors after addressing all the comments in the revised manuscript to send it for proofreading in order to polish all the grammatical and typo errors existing within this manuscript. The following points shall be addressed in the revised manuscript before it can be considered for publication: Title: Please maintain only one title. Why do you have to titles? The title should be meaningful and represents the content of the paper. Please revise it. The title should be re-written as "Geotechnical profiling with two-dimensional wenner-schlumberger configuration on mine waste dump of surface mine"	
	Abstract: The abstract has some flaws. It should contain a background, brief explanation of	

	problem statement, objectives, methodology and main results. Please revise to ensure putting all those mentioned earlier.	
	Please do the following amendments. In page 2 line 7, please re-write the phrase "It assumed that the" as "It is assumed that the".	
	In page 2 line 14, please provide spacing between the numbers and the units in the quoted phrase "130m and thickness around 50m".	
	In page 2 line 14, please re-write "Data processing using Res2Dinv software" as "the data was processing using Res2Dinv software".	
	In page 2 lines 15 and 16, please re-write in lower case "Contact 16 Zone, and Disposal Material layer".	
	Introduction: 1. The paper has only 10 references and most of them are dated, it is suggested to include more recent papers. The literature is not critically reviewed, please include a critical and detailed review on slope stability analysis and also the main topics of this paper. You may cite the following recent papers and more:	
	a. Alsubal S, Sapari N, Harahap I SH and Al-Bared M A M 2019 A review on mechanism of rainwater in triggering landslide, IOP Conf. Ser. Mater. Sci. Eng. 513 pp1-12. doi:10.1088/1757-899X/513/1/012009.	
	b. Al-Bared M A M, Abdullah R A, Mohd Yunus N Z, Mohd Amin M F and Awang H 2015 Rock slope assessment using kinematic and numerical analyses J. Teknol. 72 pp 1-7. doi:10.11113/jt.v77.6421.	
	c. Al-Bared M A M , Harahap I S H , Marto A , Mustaffa Z , Ali M O A , Al-Subal S 2019 Stability of cut slope and degradation of rock slope forming materials - a review, Malaysian Constr. Res. J. 6 pp 215-226.	

	d. Abdullah R A, Rosle Q A , Al-Bared M A M , Haron N H , Kamal M and Ghazali M 2015 Stability assessment of rock slope at Pangsapuri Intan, Cheras in: Int. Conf. Slopes Malaysia: pp 1-16.	
	e. Al-Bared M A M , Harahap I S H , Azuddin N H, Marto A , Alavi Nezhad Khalil Abad S V, M Ali O A and Isah B W 2020 Degradation of limestone exposed to drying and wetting cycles - experimental study, IOP Conference Series: Earth and Environmental Science, 476 012040.	
	Please consider the following points: 2. In page 3 lines 25-31, please re-write in a paragraph form. It is not advisable to write in a point form within the introduction.	
	3. In pages 3 line 46, please ensure that you use the proper citation of Open Geosciences Journal. Do not combine both alphabetical and numerical systems as quoted here "(Dona, Akmam, & Sudiar, 2015)[5]".	
	3. In pages 4 and 5 lines 57-67, please re-write in a paragraph form. It is not advisable to write in a point form within the introduction.	
	4. In page 5 lines 74, the word "and" was repeated twice.	
	5. In pages 5 and 6, Figures 2 and 3 were not mentioned within the text. Besides, for Figure 1, it was mentioned within the text, but it was written as "Fig. 1". Please be consistent and use either Figure of Fig.	
	6. The last paragraph of the introduction should clearly highlight the objective and the novelty of the manuscript.	
	Materials and Method The methodology is not clear and should be re-written. Please provide photos of the studied site and also for the methodologies adopted for better understanding. Please try to relate with the slope stability profiling which is the main topic of this paper.	

	Results and Discussion 1. In page 9 lines 137-143, please justify your findings and cite published research to support your findings.	
	2. For Figures 6-8, please label the vertical and horizontal axis. Also, provide a proper legend to easily understand the different colors in the Figures.	Legend of figure has been added and basically horizontal and vertical axis has been appear on the original program
	3. In page 9 lines 144-150, please justify your findings and cite published research to support your findings.	Finding refer for experimental based on field measurement, processing and appear on the figure 6-8
	4. In Figures 9-11, why the strata started upside down. For example, bed rock was in the top and the disposal material was in the bottom. Kindly clarify that.	Original topography is inclined about 14 degree and construction mine waste dump has been reach about 60m thickness. Dumping has been carried out started on bottom going up to upper part.
	Conclusion Conclusion is written in short point form; need to clearly explain the findings in the conclusion not just provide short sentences as it currently reads. Authors also need to edit the whole paper to avoid any typos	Noted and thanks. Conclusion has been well revised and
Reviewer #5		
1	The author has studied the geotechnical profiling on surface mine waste dump using 2D wenner-schlumberger configuration. The subject is relevant to the scope of the journal and the work is original. The paper is recommended for publication after addressing the following comments and MAJOR REVISION	Major revision has been carried out and manuscript has been well improved.
2	The abstract structure is NOT suitable; it is expected the standard structure of abstract to be followed and the quantity results MUST be explained.	Abstract has been improved started from background, objective, method, analysis and conclusion.
3	The literature review is not complete. The journal papers relevant to the author's work should be addressed. Introduction can be extended and MORE and NEWEST references should be added.	Newest reference has been added about five references
4	The author should clearly mention weaknesses and limitations of the proposed method.	Weakness and limitation has been added into manuscripts.

The authors appreciate the valuable comments from the Reviewers

Yours sincerely,

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Response by Authors to Reviewer's Remarks/Comments

GEOTECHNICAL PROFILING OF A SURFACE MINE WASTE DUMP USING 2D WENNER-SCHLUMBERGER CONFIGURATION

Authors: Supandi

The authors have summarized their replies to the Reviewers' comments in this response letter in a two column format. A revised manuscript is submitted addressing all the comments to the Journal of Open Geoscience for possible publication.

No	***Editor's Comments***	***Authors Response***
Reviewer #1		
1	In the second revised version the manuscript has been slightly further improved. The explanations which have been provided by the authors in their response do not cover the major concerns of the reviewers.	This research used deducto-hypothetico-validative concept which the validation was carried out by using an empirical approach to the comparison of measurement result with field result. Standard equipment and standard method were applied in the measurement process to produce good quality of data. The data was processed by a verified and widely recognized program to produce good interpretation result. The measurement results were compared with the results in field as a verification process. Empirical analysis, which is carried out by comparing the data of measurement result with the real condition in field, is the strength of this research that can update previous research by the empirical result. The update is based on real field condition of the existing outcrops in the field with control of fragmentation and rock properties as the limitation. With this concept of research, the keys of this research are: a. The research was conducted using standard measuring instruments b. The data collection was carried out by a validated method c. The data processing used a verified and widely recognized program d. The validation was carried out by comparing the actual condition with the measurement result With this condition, this empirical approach does not discuss further about back analysis using deterministic approach. It seems to the author that Reviewer #1 puts forward deterministic approach by developing several quantitative calculation. The author considers this can be a recommendation for further research. For now, this paper is limited to only validate the value and the field condition with the four considerations above. Reviewers' suggestions for developing mathematical equations and conducting quantitative analysis can be brought into a good paper to develop. The research question has already been stated in **[Line 5-9]** that is how to map subsurface conditions precisely and comprehensively. The explanation is in the introduction with additional paragraph in **[Line 27-30]**. The experimental design combines theory and actual condition of the field in which each location has their own

		characteristic. By conducting experiment on the resistivity of mine waste dump combined with observation of the outcrop, the layer of material on the body of the pile can be interpreted. The explanation is in **[Line 155-158]**. The explanation about coupling between the theoretical analysis and the case study is already in the manuscript, especially in **[Line 248]** and so on.
2	The explanation which has been added in [Lines 142-146] does not cover my comment referring to the research questions as well as the original contribution of the work, comparing to other previous works.	This empirical approach has succeeded in updating the range of resistivity values based on comparison of real field condition with the resulting value. The control approach of fragmentation, geohydrology, and lithology becomes the limitation in new classification which is different from the previous authors. In the previous research, resistivity of gravel material ranges from 400-100 Ωm, while in this research, resistivity of sand-gravel material is 0.1-30 Ωm for medium dense material and 30-50 Ωm for dense material. In previous research, bedrock has a resistivity value of 70-500 Ωm, however in this research, resistivity value of >50 Ωm has shown a bedrock layer. This explanation has shown that the critical review of previous research and the deviation of reading between the literature and the measurement result have been included in the manuscript. **[Figure 1 compared with Line 246-262]**.
3	The description which has been added in [Lines 73-91] does not include a more in-depth theoretical and quantitative analysis.	As explained above, this research puts forward the deducto-hypothetico-validate approach, which the validation is based on comparing the real condition in the field with the measurement result. It has been explained in point 1 that with the four considerations given, for now, the discussion is limited to the validation. The reviewers' suggestion for detailed theoretical and quantitative analysis is a very constructive input to be developed into a new paper. Back analysis with detailed theoretical basic concepts and validated result values is a pretty interesting part of the back analysis to be brought in the future into an in-depth paper, from theory to quantitative analysis. For now, the empirical approach and the validation of field condition are the strengths of this paper.
4	3. An analytical explanation of the experimental design has not been provided. The discussion in [Lines 106-111] on the correlation between the measurement value from and the field conditions at several outcrops does not give an adequate	The concept of Wegner-Schlumberger configuration was applied in the analysis and it has been explained in the manuscript. The author believes that explanation of the experimental design is clear. Correlation of the measured values was also done by comparing it with the real condition in the field, by creating a stratigraphic profile on the measurement path so that the value and the real condition can be compared. The author considers that this is a simple process that has been described in the manuscript.
5	4. The validation of the applied analysis has not been provided. The discussion in [Lines 106-111] does not cover the validation of the	In this paper, the validation was carried out by comparing the measured values with the real condition in field at several outcrops. In the future, it is possible to develop a detailed paper discussing the back analysis of the validation results of this paper so that it clearly explains how the quantitative analysis is. Thank you to the reviewers who have given suggestions and the author hopes to continue the research by conducting quantitative analysis from this paper.

6	The practical considerations of the research are not fully addressed. The explanation which has been added in [Lines 309-313] does not provide enough data region arding the practical application of the research.	This research can be applied when there is the same condition in fragmentation, rock type, and hydrogeology. This causes the result of this measurement to be different from the result of previous measurements which do not explain the detail conditions of fragmentation, rock type, and hydrogeology. With the result of this measurement, it can be seen that there is difference with previous researches so it enriches the material classification, especially the embankment material.
7	The conclusions have not significantly improved. In conclusion, a more in-depth theoretical and quantitative analysis is needed. In addition, a better justification of the results in relation to the technical characteristics of the investigated area should be provided, incorporating the geological information into the analysis.	Determination of the stratigraphic profile was carried out by linking the resistivity value in a certain range. Each range will be assumed to have the same characteristics so it will be the same layer. Every change in the resistivity value will be shown in a resistivity contour where each change shows different color. From the research results, a new classification was obtained for clastic sedimentary rock with sand-boulder fragmentation and limited water content. This result is different from the results of previous studies. This paper uses an empirical approach and does not use mathematics to quantify the value obtained. Future paper may be written by discussing the details of this quantitative process so it can be used for back analysis to obtain several parameters. Thank you to the reviewers for providing feedback to detail the equations and carry out mathematical calculations.

The authors appreciate the valuable comments from the reviewers.

Yours sincerely,

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Open Geosciences

OPENGEO-D-20-00084

Title: Geotechnical profiling with 2d wenner-schlumberger configuration on mine waste dump of surface mine geotechnical profiling on surface mine

Comments by Reviewer

This paper provided substrata profiling of disposal material using geoelectrical method. The interpretation of the subsurface cross-section showed 3 layers consisted of bed rock, contact zone, and disposal material layer. The paper has a very good novelty and can be published after considering all the comments given. Besides, it is suggested that the authors after addressing all the comments in the revised manuscript to send it for proofreading in order to polish all the grammatical and typo errors existing within this manuscript.

The following points shall be addressed in the revised manuscript before it can be considered for publication:

Title: Please maintain only one title. Why do you have to titles? The title should be meaningful and represents the content of the paper. Please revise it. The title should be re-written as "Geotechnical profiling with two-dimensional wenner-schlumberger configuration on mine waste dump of surface mine"

Abstract: The abstract has some flaws. It should contain a background, brief explanation of problem statement, objectives, methodology and main results. Please revise to ensure putting all those mentioned earlier. Please do the following amendments.

In page 2 line 7, please re-write the phrase "It assumed that the" as "It is assumed that the".

In page 2 line 14, please provide spacing between the numbers and the units in the quoted phrase "**130m** and thickness around **50m**".

In page 2 line 14, please re-write "Data processing using Res2Dinv software" as "the data was processing using Res2Dinv software".

In page 2 lines 15 and 16, please re-write in lower case "**C**ontact 16 **Z**one, and **D**isposal **M**aterial layer".

Introduction:

1. The paper has only 10 references and most of them are dated, it is suggested to include more recent papers. The literature is not critically reviewed, please include a critical and detailed review

on slope stability analysis and also the main topics of this paper. You may cite the following recent papers and more:

a. Alsubal S, Sapari N, Harahap I SH and Al-Bared M A M 2019 A review on mechanism of rainwater in triggering landslide, IOP Conf. Ser. Mater. Sci. Eng. 513 pp1–12. doi:10.1088/1757-899X/513/1/012009.

b. Al-Bared M A M, Abdullah R A, Mohd Yunus N Z, Mohd Amin M F and Awang H 2015 Rock slope assessment using kinematic and numerical analyses J. Teknol. 72 pp 1–7. doi:10.11113/jt.v77.6421.

c. Al-Bared M A M , Harahap I S H , Marto A , Mustaffa Z , Ali M O A , Al-Subal S 2019 Stability of cut slope and degradation of rock slope forming materials – a review, Malaysian Constr. Res. J. 6 pp 215–226.

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e. Al-Bared M A M , Harahap I S H , Azuddin N H, Marto A , Alavi Nezhad Khalil Abad S V, M Ali O A and Isah B W 2020 Degradation of limestone exposed to drying and wetting cycles – experimental study, IOP Conference Series: Earth and Environmental Science, **476** 012040.

Please consider the following points:

2. In page 3 lines 25-31, please re-write in a paragraph form. It is not advisable to write in a point form within the introduction.

3. In pages 3 line 46, please ensure that you use the proper citation of Open Geosciences Journal. Do not combine both alphabetical and numerical systems as quoted here “(Dona, Akmam, & Sudiar, 2015)[5]”.

3. In pages 4 and 5 lines 57-67, please re-write in a paragraph form. It is not advisable to write in a point form within the introduction.

4. In page 5 lines 74, the word “and” was repeated twice.

5. In pages 5 and 6, Figures 2 and 3 were not mentioned within the text. Besides, for Figure 1, it was mentioned within the text, but it was written as “Fig. 1”. Please be consistent and use either Figure of Fig.

6. The last paragraph of the introduction should clearly highlight the objective and the novelty of the manuscript.

Materials and Method

The methodology is not clear and should be re-written. Please provide photos of the studied site and also for the methodologies adopted for better understanding. Please try to relate with the slope stability profiling which is the main topic of this paper.

Results and Discussion

1. In page 9 lines 137-143, please justify your findings and cite published research to support your findings.

2. For Figures 6-8, please label the vertical and horizontal axis. Also, provide a proper legend to easily understand the different colors in the Figures.

3. In page 9 lines 144-150, please justify your findings and cite published research to support your findings.

4. In Figures 9-11, why the strata started upside down. For example, bed rock was in the top and the disposal material was in the bottom. Kindly clarify that.

Conclusion

Conclusion is written in short point form; need to clearly explain the findings in the conclusion not just provide short sentences as it currently reads. Authors also need to edit the whole paper to avoid any typos.