

Course Project – Stage 3: Mining and the SDGs

Aim: To apply your knowledge and research skills developed during the course to consider the impacts of operating your mine on meeting the UN Sustainable Development Goals (SDGs).

Objective: To apply existing knowledge on the impact of mining on SDGs to your proposed mine.

Outcome: To improve critical thinking, evaluation and writing skills.

Time required: The assignment will have three dedicated lab sessions and will require additional hours outside these times to be completed.

Assignment: The reports you wrote in Stage 2 focus on the geologic side of mining. While you considered environmental and social impacts, these were related to the production of the ore and waste materials. In this part of the project, you will write additional sections to your report to consider how you plan to mine and process the ore; with evaluation of the impacts of your proposed mining operation towards meeting the UN SDGs.

Your findings should be presented under the following headers, using the provided template so they can easily be incorporated into your final report. Your final report will be submitted in Stage 4. The template contains the full details of the information expected under each heading / subheading. Your writing must include GSA formatted in-text citations to reference your ideas, with a matching reference list.

- Mine Design and Planning
- Ore Processing
- Responsible Mining
 - Environmental Sustainability
 - Social Inclusion
 - Economic Development

You may find the following reference materials useful:

- UN Sustainable Development Goals <https://sdgs.un.org/goals>
- Mapping Mining to the SDGs: An Atlas (2016). <https://www.undp.org/publications/mapping-mining-sdgs-atlas>
- Mining and the SDGs (2020): <https://www.responsibleminingfoundation.org/mining-and-the-sdgs/>
- Geosciences and the Sustainable Development Goals (2021). DOI: 10.1007/978-3-030-38815-7 <https://link-springer-com.libproxy.furman.edu/book/10.1007/978-3-030-38815-7>
- SDG Online, from Taylor and Francis: <https://www.taylorfrancis.com/sdgo/?context=sdgo>
- Sustainable development index, interactive dashboard: <https://dashboards.sdginde.org/map>
- There are many additional links on Moodle to further resources.

Submission: The assignment should be uploaded through Moodle. For any problems / issues with submission you must contact me before the deadline.

Course Project, Stage 3: Mining and the SDGs – Grading Rubric

Student name:

Marks Category	Missing [0]	Serious Problems [1]	[2]	[3]	Excellent Work [4]	Score
Coversheet	None	Title OR student name	Title AND student name			/2
Report Formatting	None	Does not follow template	Partially incorrect format and includes template guidance text.	Correctly formatted, but includes template guidance text.	Correctly formatted - Font: Times New Roman, 12 pt. - Spacing: 1.5 lines - Headings: bold - Captions: Times New Roman, 10 pt., centred.	/8
Mine Design	Limited, e.g., single sentence or phrase.	Proposition of unsuitable mine type with some description of ore body.	Proposition of good mine type related 1/3 to ore body characteristics, grade and environmental impact.	Proposition of good mine type related 2/3 to ore body characteristics, grade and environmental impact.	Proposition of good mine type related to ore body characteristics, grade and environmental impact. References as appropriate.	/12
Ore Processing	Limited, e.g., single sentence or phrase.	Proposition of unsuitable ore processing for ore type.	Proposition of appropriate processing related to evaluation of 1/3 ore type, shipping links, and impacts of on-site processing compared to off-site.	Proposition of appropriate processing related to evaluation of 2/3 ore type, shipping links, and impacts of on-site processing compared to off-site.	Proposition of appropriate processing related to evaluation of ore type, shipping links, and impacts of on-site processing compared to off-site. References as appropriate.	/12
Responsible Mining	None	Limited	Brief (few lines) introduction to the section			/2
Environmental Sustainability	Very limited evaluation	Limited evaluation of factors, supported by some detail. Neither relation to SDGs nor references.	Limited evaluation of factors, supported by some detail, some relation to SDGs and references.	Evaluation of factors, logically supported by extensive detail, relation to SDGs and references.	Evaluation of complex, multi-level issues, logically supported by extensive detail, relation to SDGs and references	/16

	Missing [0]	Serious Problems [1]	[2]	[3]	Excellent Work [4]	
Social Inclusion	Very limited evaluation	Limited evaluation of factors, supported by some detail. Neither relation to SDGs nor references.	Limited evaluation of factors, supported by some detail, some relation to SDGs and references.	Evaluation of factors, logically supported by extensive detail, relation to SDGs and references.	Evaluation of complex, multi-level issues, logically supported by extensive detail, relation to SDGs and references	/16
Economic Development	Very limited evaluation	Limited evaluation of factors, supported by some detail. Neither relation to SDGs nor references.	Limited evaluation of factors, supported by some detail, some relation to SDGs and references.	Evaluation of factors, logically supported by extensive detail, relation to SDGs and references.	Evaluation of complex, multi-level issues, logically supported by extensive detail, relation to SDGs and references	/16
Writing	Bullet point list AND poor spelling AND poor grammar.	Bullet point list AND good spelling AND grammar.	Paragraphs AND poor spelling AND poor grammar.	Paragraphs AND poor spelling OR grammar.	Paragraphs AND good spelling AND grammar.	/8
Use of Figures & Tables	None	NOT referred to in text NOR appropriately captioned and referenced.	NOT referred to in text OR appropriately captioned and referenced.	Good quality with scale(s), referred to in text, appropriately captioned and referenced.	Multiple figures of good quality with scales (as needed), referred to in text, appropriately captioned and referenced. Tables as/if needed. Improve understanding of points.	/12
References	List, no in-text citations	List with some attempt at GSA formatting or missing in-text citations	List with some attempt at GSA formatting with in-text citations.	List with correct attempt at GSA formatting, not correlated to in-text citations	List with correct GSA formatting, matching in-text citations	/16
Total						/120
						%