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Rhetoric Analysis of Lab Reports

Introduction of Rhetorical Analysis

This rhetorical analysis includes a comparison of two lab reports surrounding the issue of water pollution. The first lab analyzes the costs of shale gas exploitation on the water quality in Chongqing, China. The second lab analyzes three treatments to determine which is the best method in treating pesticide intermediate industrial wastewater. Each lab report contains the following eight sections: title, abstract, introduction, materials and methods, results, discussion, conclusion, and references.

Title

The first lab report is titled "Water Consumption and Pollution Cost of the Shale Gas Development: a Review and a Case Study." The second lab report is titled "Treatment of pesticide intermediate industrial wastewater using hybrid methodologies." The first lab report contains keywords such as water, pollution, and shale gas, while the second lab report contains treatment, pesticide, industrial wastewater, and methodologies. This makes it easier for the audience to decide whether these reports are relevant to them.

Abstract

The abstract of the first lab report does not contain questions, but it does state that shale gas exploitation causes water pollution in Chongqing, China. In addition, the abstract briefly summarizes the methods, results, and conclusion of the lab report. The authors of this lab report explain the basis of how they will calculate the costs of drilling shale gas due to the lack of research that was given. Using data from other sources while factoring in water resource

consumption, the effects on water quality, and how much damage is done to human bodies will allow them to make an accurate analysis of the damage caused by shale gas exploitation. However, the abstract should elaborate a little more on these sections of the report so the audience could have a better understanding of the content.

The second lab report presents the issue that pesticides in industrial wastewater are making it more difficult to treat the already polluted water. Thus it proposes multiple methodologies in the form of a hypothesis that may help with the treatment of these pesticides. Compared to the first lab report, the second lab report includes many complicated terms such as the use of a rotavapour distillation. I believe that the authors of this report should have briefly described the purpose of the process and how it affects water pollution. However, this report may be aimed at readers that are more knowledgeable in the field of water treatment. The materials and methods are connected to the hypothesis. They may have combined these sections because it was necessary to include them in the brief discussion of the introduction. The results, discussion, and conclusion are briefly summed up by stating that the first methodology was the most effective in opposing pesticides.

Introduction

In this first lab report, the authors discuss the statistics of the volume of shale gas resources in China compared to other countries such as the United States. The authors state that China is attempting to reduce its use of coal by using an alternative source called natural gas, with shale gas being one of them. In order to obtain these resources, hydraulic fracturing technology must be used. However, if used improperly, this technology causes wastewater to flow back into bodies of water such as groundwater or surface water. Lastly, the authors propose a method to determine the environmental costs of shale gas exploitation. They will qualitatively

and quantitatively analyze the use of water and the pollution of this resource. Furthermore, an analysis of the treatment of wastewater will be conducted. The authors hypothesize that based on the data analyzed, they will be able to confirm the costs and benefits of shale gas exploitation.

In the second lab report, the authors approach the situation in a similar manner by giving necessary background information. They mention that wastewater is constantly being discharged into bodies of water, but there is always a lack of treatment of this polluted water. Although pesticides may be beneficial for crops, it is very toxic for humans. The authors discuss the difficulty of treating pesticides because treatments may result in sludge, high costs, and secondary pollutants. Furthermore, the authors delve into the specific treatments that are effective. They present recent studies that have proven the validity of these treatments. They hypothesize that combining these treatments will result in a more effective treatment for wastewater infected with pesticides. However, these treatments are highly technical, thus only readers that are knowledgeable in this field can interpret the details.

Materials and Methods

The first lab report mentions the use of certain data from various other sources to determine the costs of shale gas exploitation. The authors explain that there is a lack of quantitative data that can be used during this report, as stated in the introduction. There is data that compares the cost of shale gas exploitation per cubic meter, and water consumption in many regions in China to the United States. In addition, the authors discuss substances that do not necessarily contribute to human health but cause damage to crops and water quality. To determine the costs of harming human health, indirect or direct circumstances like medical expenses are taken into consideration. Overall, this section of the lab report takes many components of shale gas exploitation in order to make an educated calculation of the cost.

The second lab report states that they received their data from an industry located in India. The data contains the contents of the pesticide intermediate industrial wastewaters. Furthermore, the authors state their three methodologies in three separate sections and label the type of treatment. In these methodologies, the materials and specific conditions are stated, for example, the volume, temperature, concentration, time, etc. were specified. This is effective as it allows readers to repeat the lab to test the credibility of the whole report. Compared to the first lab report, this report is straightforward by stating the materials and the procedure.

Results

The first lab report refers back to the data shown in the materials and methods section. The qualitative and quantitative data on water consumption and pollution primarily in the Chongqing Fuling national shale gas demonstration area were used. After taking every component into consideration they state that each well drilled by a hydraulic drill was around fourteen thousand dollars.

In the second lab report, the authors discuss the results from adding the treatment to the pesticide intermediate industrial wastewater. The approach they took was step by step. Initially, one part of the treatment was added to the wastewater and it was demonstrated to treat the water by a specific percentage. As time progressed, more of the treatment was used, thus leading to a percentage that this treatment was able to accomplish. The authors presented this information by separating each methodology as they did with the materials and methods section.

Discussion

The first lab report discusses the purpose of this report and how it could help scholars measure the environmental costs of shale gas exploitation. The authors then reiterate that shale gas is used over coal for a cleaner environment, however it has an impact on water quality, so the

readers should be wary of that consequence. In addition, the authors state that shale gas exploitation causes the water quality to decline, thus affecting agriculture, water consumption, and industrial water use. The authors end by expressing their concern because China's use of shale gas has been increasing, therefore it will cause more water pollution.

The second lab report compares the three treatment methods and makes a connection between methodology one and two. The percentages of both methodologies are similar because they use similar processes, with only one minor difference. The authors use data from another source to explain why the second methodology has the highest percentage of waste removal. The first lab report acted more as a conclusion because it reiterated some points from other sections of the report. This report sought to explain the differences in the methods and why one treatment was more effective.

Conclusion

The first lab report reiterates the purpose of the paper by stating its benefit to China's shale gas industry and addressing the consumption and pollution of water. In addition, the authors give suggestions that can help alleviate the costs of shale gas exploitation. However, the authors do acknowledge the reports limitations such as a lack of data and inability to calculate the costs of a specific well.

The second lab report sums up the data by stating that the second methodology had the highest percentage of waste removal out of the three methodologies. The authors explain that the first methodology only came short because it uses photo fenton instead of the fenton process. Compared to the first lab report, this report was more concise.

References

Both of the lab reports cite their citations correctly. However, the first lab report mentions one website with a link and no proper citation in APA format. I am unsure why the proper citation was not included in this source. Both lab reports list their references correctly and in alphabetical order.

Conclusion of Rhetorical Analysis

Overall, both lab reports contained highly technical content that surrounded the issue of water pollution. Each lab report provided many data tables to support their hypothesis and argument. Due to their utilization of sophisticated language, only readers that are more educated on these topics will be able to get the most out of these sources. However, readers that are interested in the topic of water pollution may find both lab reports to be very informative and intriguing.

References

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Self Reflection

While typing this assignment, I learned that there are many components that make up a lab report. The most important parts of a report are definitely the title, abstract, and results because they determine whether this specific source is practical for them. I often found myself skimming through these sections to see if it was worth using this source. I also learned more about the different methods in which water pollution can occur, as well as the damage shale gas exploitation can cause, despite appearing to be cleaner for the environment as opposed to coal. As for the pesticides lingering within industrial wastewater, I learned that it is not simple to treat, otherwise a lot of it would have been cleaned up. I will definitely be skimming the more important sections of sources in the future to save more time.

I found myself enhancing strategies for reading because I skimmed more important sections of the lab reports I was searching for. In addition, I utilized online databases to look for sources that were related to the topic of water pollution. Lastly, I strengthened my sources using practices when I paraphrased many ideas that I read on both lab reports. I had to analyze and compare each lab report to notice similarities and differences and why it may have been written in that format.