WI24 SYN 100 Section J Group Four Process Statement

Our main driving question for this project is: What are the (potential) direct ramifications of lithium extraction in the Western United States, and how can these effects be mitigated or avoided? The context for this driving question is that as electric vehicles and so-called “smart devices” become more prevalent in our everyday lives, the demand for lithium and other rare earth metals used in batteries and computer hardware is skyrocketing–the pursuit of lithium reserves has been referred to as the “white gold rush” in popular media. Previous rushes for rare earth metals, however, have had well-documented consequences for frontline communities in areas with a prevalence of rare Earth metals, such as in the Lithium Triangle region of South America as well as in the cobalt-rich regions of the Democratic Republic of Congo. We hope to understand through our project the most significant issues posed by lithium extraction in the United States today, and what can be done to address those issues. We choose to focus on five key areas of interest in the Western United States where lithium extraction projects are being explored or undertaken: Silver Peak, NV, Salton Sea, CA, Thacker Pass, NV, Great Salt Lake, UT, and Jackpot Lake, NV.

The audiences of our project include University of California, San Diego (UCSD) students/academics and members of the general public interested in climate justice and the ramifications of the “green technology revolution,” which we believe to be an appropriate choice of audience as we are UCSD academics ourselves, and can thus tailor our messaging best to those we interact with on a daily basis. Given that our area of project focus is also on the western United States, and the project members all study in the western United States, we believe there is good agreement between our project area of focus, our positionality, and our audience. We should note that we are ensuring that our project materials are fully accessible online to all who wish to view and interact with them. The link to view the project materials is here: <https://github.com/benjamint8/mapping-western-US-lithium>. Furthermore, the goals of our project are relatively straightforward: to visualize current issues and mitigative measures related to lithium extraction in the Western United States (while foregrounding issues of particular importance to frontline communities, such as pollution and water access), and to make the research behind these visualizations (along with the visualizations) publicly available to anyone who might be interested in the issue of lithium extraction. That way, we can enable so-called seven generations thinking with our project by helping members of the public understand the historical issues with lithium extraction, the current state of lithium extraction operations in the western United States, and what remains to be done to address its most significant challenges in the future, so they can continue the work we have started if they so choose.

With regards to methods, all project team members conducted reviews of and collected information from second-hand sources with information on our areas of research interest, including sources such as: academic studies concerning direct lithium extraction technologies; state and county government reports of local water usage; Indigenous-run databases of historical Indigenous land boundaries; and local news reports of lithium extraction projects. The focus of these literature reviews varied from person to person; for instance, Shining focused on reviewing sources which provided first-hand Indigenous accounts of the Thacker Pass lithium extraction project, since Indigenous rights are the primary concern to be addressed for that area. All project members also used information from these sources to map relevant information using Google Earth Pro, a free GIS tool provided by Google.

In terms of outcomes and results, we have uncovered that the two main issues of lithium extraction are water issues and Indigenous rights. Lithium extraction can be extremely water intensive, an especially problematic phenomenon in the parched western United States. Additionally, Indigenous land rights are routinely trampled and ignored in resource extraction projects and lithium is no exception, as shown in the case of Thacker Pass. To address these issues, our group found that extraction locations must be chosen in close collaboration with local communities and Indigenous tribes, and that resource use must be minimized by the use of direct lithium extraction technologies (which are projected to be much more water efficient) and by the use of lithium recycling, to offset the need for new extraction in the first place.

In addition to this process statement, we have submitted the following files: our final presentation, in which we outline current problems with lithium extraction projects in the United States and what can be done to address these problems; records of the research we undertook as a group to understand the locations of study; our project proposal (including initial and final versions) where we outline our project completion process and the resources we required, as well as individual group member statements on positionality; our KMZ files where we stored overlays, polygons, and place marks we mapped out for our locations of interest; and our answers to the final presentation guidelines, where we reflect on our progress since the beginning of the project and what we have learned.