Students need to understand what is meant by mine rehabilitation and why it is such a big topic here in Western Australia.

1. Show the map of Australia on the geoscience portal to show how big mining is in Australia.

<http://portal.geoscience.gov.au/>

1. Look at the data to show how much money we are talking about and how much it brings into the economy. Also how many people in Western Australia work in the mining industry or an industry that is connected to mining (basically all of Kalgoorlie – no mining no Kalgoorlie)
2. Show the video:

<https://www.abc.net.au/news/2017-02-15/australia-institute-report-raises-concerns-on-mine-rehab/8270558>

1. Discuss with students how much of Western Australia is given over to mining.
2. Ask why it is important to rehabilitate the land after the mine has finished. Discuss that it is actually better to rehabilitate as go along as too big a job at the end and a lot of companies claim liquidation to avoid having to do it. Government has set up a fund to help mines with the problem but really not big enough to do the job. Also mines should take on the responsibility and put aside money for the rehabilitation which some government insist on. Many clauses seems that mine can use to get out of doing rehabilitation and generally seems if you dig the hole big enough you generally don’t have to fill it in because the ground would become too unstable so looks like closure plans accept that it is ok to put a fence around it and leave it – in case need to reopen at some point.
3. Discuss with students that the idea of rehabilitation is the company decide where they are going to dig. They then remove all the top soil and put it in a safe space nearby. They then dig the hole and extract the mineral from the rock. Some rock is of no use and is classified as waste rock, this is dumped in a specified place. How it is dumped, the amount angle etc has to be calculated and done to a specific design. Reasons for this is so that it does not slip, more can be added till get to a required height, the run off does not create big grooves or create unwanted water channels going to the wrong places. This is classified as the ongoing rehabilitation. Once the waste dump reaches a specific point that no more can be added they go about rehabilitating it. This involved putting the top soil back on. Ploughing it to create trenches and then replanting it with native species. Show map of waste dumps around the pit and map of rehabilitation stock piles.

All this has to be done with consultation with “everybody” and recognition of any Aboriginal sacred sites. Plants are often grown before hand. Depending on what the area was like before depends on what they have to do.

Watch the video on the rehabilitation of New South Wales Mine and NZ mine

<https://www.glencore.com/index/media-and-insights/insights/restoring-land-our-work-in-land-rehabilitation> video of New South Wales rehabilitation of mine site

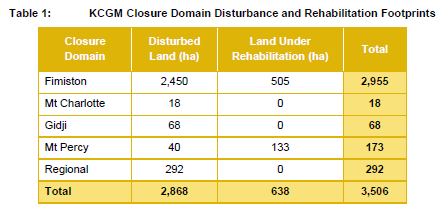
<https://www.mining-technology.com/features/feature-rehabilitating-old-mining-sites-biosolids/>

1. Case Study is going to be KCGM and then site visit.

KCGM – focus study of how a mine goes about gradually rehabilitating the landscape back to original form.

* Who needs to be involved
* What research has to be done/what data collected
* What are the steps involved in the process and how long does it take
* Who carries out the process and how is it monitored

1. How many locations are under the control of KCGM? Fimiston, Mt Charlotte, Gidji, Mt Percy. Show these on a map. Show size of problem.



1. Discuss the rehabilitation process has to follow the guideline set by the government and also has to be done in consultation with numerous groups within the community. Information in documents on what is being proposed for the end of the mines. 5.1 Post-Mining Land Use
2. Discuss that KCGM does not have the resources to rehabilitate everything so it is going to concentrate the resources rehabilitating things that people can see and not the stuff they can’t. (6.1.6 Rehabilitation in the report).
3. Good example of what they have done, who was involved and the processes involved is the rehabilitation of Nanny Goat Hill in accordance with Aboriginal Community as one of their sites.

<https://superpit.com.au/wp-content/uploads/2015/01/EHS_ENV_PLN040_Aboriginal-Cultural-Heritage-Management-Plan-Apr-10.pdf>

1. You could then go into how mine rehabilitation is done at KCGM. The use of waste dumps. (Just finding out if can use their power point to continue the slide show.
2. Students could have access to the research documents I sent to you by putting them on connect and they could answer the questions as far as they can.
3. Students would then go on the field trip and make notes whilst there and then they could complete the rest of the assignment at home. I am not sure we need to do a validation in class as part of the validation is them collecting the information from the field trip and then completing their write up.

I have not done the answers we are expecting yet until I have heard back from KCGM as to exactly what they will be presenting.