

2018 WERC Design Contest FAQ

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Task 3: Ecological Reuse of Brownfield Sites

Q: Why did Freeport-McMoRan (FCX) develop a reclamation plan for the Galena stockpile?

A: FCX recognized that voluntary reclamation opportunities at the Copper Queen Mine (CQB) would provide multiple benefits. Reclaiming the Galena Stockpile by capping the stockpile with unimpacted native soils improved the quality of surface water runoff. Reclamation also reduced the amount of stormwater that CQB had to manage, and improved the aesthetics of the stockpile.

Q: Are there any possible improvements for current stormwater management plan?

A: CQB's systems are robust and built with redundancy so that they can adequately manage the frequency, duration and volume of storm events. FCX has a comprehensive stormwater management system in place, not only at CQB's reclamation areas, but at all other reclamation areas across the company portfolio. The Galena stockpile efficiently and effectively moves water off site into natural drainages. Given the topographic position of the stockpile there are no known improvements that could be made at this time.

Q: How often are the reclamation areas checked or inspected?

A: The Galena reclamation area is inspected both quarterly and annually. The site environmental team inspects the area quarterly or after rain events exceeding 1 inch. The reclamation team inspects the area annually. During the inspections, the reclamation area is evaluated and any identified impairments are documented, communicated, and addressed. Both the site environmental department and the reclamation team work closely together on this effort. No significant maintenance has been required at the Galena stockpile since it was completed in 2011.

Q: Is there any meteorological data being tracked?

A: FCX collects rainfall, temperature and evaporation data regularly.

Q: Do you have bioretention basins or rain gardens on the Bisbee's reclamation areas?

A: FCX has bioretention basins that attract a diversity of wildlife at other reclamation areas within CQB, but not at Galena. This is because the Galena stockpile is very small and doesn't have the watershed that will generate the amount of surface water

needed for a bioretention basin, nor does the topography lend itself to this application. Instead, FCX has chosen to manage by allowing clean water to run off into existing channels that replenish local aquifers.

Q: What energy sources will there be access to?

A: The Galena stockpile has currently no connection to energy sources.

Q: Does FCX own land around the reclaimed Galena stockpile?

A: Yes, FCX owns approximately 12,000 acres at Bisbee.

Q: Does FCX's Copper Queen Branch have problems with dust pollution?

A: Anytime there is open space, or moving equipment / vehicles, dust can be an issue. As part of a concerted dust management plan, CQB applies water to frequently traveled dirt roads and requires slower speeds at construction sites. CQB is in compliance with air applicable quality requirements.

Q: What stakeholders were involved in the development of the Galena reclamation plan?

A: There were 6 FCX staff and multiple external stakeholders involved, including regulatory agencies (ADEQ, US Army Corps of Engineers) and the local community. Community members were engaged through Open Houses and also kept informed through quarterly newsletters.

Q: Have you developed any of your own alternative land-use plans?

A: Currently, CQB designates our reclamation areas as wildlife habitat and open space. While we have explored alternative energies (e.g. solar), it has not been practical to implement. FCX has also explored the possibility of establishing a hiking trail in that area. A hiking trail would be a good opportunity to showcase FCX's reclamation projects and educate the community about the benefits of reclamation (e.g. aesthetic improvements, providing wildlife habitat etc.), as well as the culture and history of the area.

Q: Would it be practical to build a pond / water feature on the Galena stockpile?

A: The goal is to develop additional value for the Galena stockpile as it is presently. It is not practical, because of space and engineering constraints to excavate a pond on Galena.

Q: Are there other restrictions on the land?

A: FCX must adhere to applicable city and county ordinances, but beyond that, we don't want to limit students' creativity.