Background

Located in northeastern Wyoming, 20 miles from the South Dakota border and 22 miles southeast of the famous Devil’s Tower, Rare Element Resources Ltd. has proposed a rare earth elements mine named Bear Lodge. This area, situated in the Bear Lodge Mountains on the unique Black Hills Uplift, contains one of the largest deposits of rare earth elements (REEs) in North America according to the US Geological Survey. The Black Hills Uplift creates various levels of rock formations that contain the carbonatite and silicocarbonate dikes and veins that are associated with REE mineralization. The proposed Bear Lodge mine would mine ten of the 17 rare earth elements including neodymium, dysprosium, and europium.

Covering approximately 1,700 acres in the Black Hills National Forest, the proposed Bear Lodge mine has a predicted lifetime of 43 years. According to a 2014 Pre-Feasibility Study released by the company, the project was predicted to have an initial capital cost of $290 million that would result in an open-pit mine that extracted 423,000 tons of ore annually when operating at full capacity (RER, 2014).

Rare earth elements (REE) are becoming increasingly important to clean energy production. Although the U.S. is not a leading producer of REEs, there are many deposits across the nation, including at Bear Lodge, Wyoming. More importantly, five of the REEs mined at the site are deemed ‘critical’ by the U.S. Department of Energy based on their role in clean energy and supply risk (RER; Siciliano, 2018).

Rare Earth Resources frequently affirms their commitment and dedication to safeguarding the environment. Following trends in the mining industry, the company declares that they are committed to the environment and to responsibly managing any “risks to [their] employees, communities and the environment” (RER Fact Sheet, 2014). On their website, the company lists the possible mitigation measures it will take when building and operating the mine. They include erosion control measures, a reclamation plan, air quality control measures and more (Environmental Programs).

Exploration and drilling for the Bear Lodge mine began in 2011. In January of 2016, Rare Element Resources suspended all permitting processes due to low market prices and a lack of funding from investors. This happened shortly after the US Forest Service released a Draft Environmental Impact Statement that recommended the advancement of the project (Fladager, 2016). Activity resumed again when the San Diego-based, defense-contracting company, General Atomics invested $4.7 million into RER in August of 2017. A statement from RER’s President and CEO stated that “the Company plans on resuming key permitting activities and progressing the Project to be poised to be the next rare earth producer in the United States…” (RER, 2017).

Policy Context

The state of Wyoming is known for its mining history and being generally mine-friendly. The state supplies more energy in the form of fossil fuels to the
country than any other state and is the nation’s leader in coal production (IER).

Historically, coal mining in Wyoming has been the cornerstone of the state’s economy. Due to recent economic downturns, coal mining jobs in this area have taken a hit. The jobs created by the Bear Lodge Project could contribute to a revitalization of the area’s economy.

Rare earth mining in Wyoming is still relatively new, so many regulations specifically addressing the practice do not exist. Because of this, rare earth mining companies must only abide by water and air regulations enforced by the Wyoming Department of Environmental Quality and the Wyoming Environmental Quality Council.

According to Rare Element Resources, the project “attracted a great deal of attention at the national level” and one company representative cited the Department of Energy, the Department of Defense, and the Department of Commerce all as proponents of the mine (Storrow, 2014).

Significant concerns were expressed by many groups in the area. The most vocal public input occurred during a public meeting held by the Black Hills National Forest where around 140 people attended. A majority of the concerns were about the potential for wastewater contamination and high levels of expected dust (Peterson, 2014). In addition, Bear Lodge’s proximity to Devil’s Tower posed many concerns for local Native American tribes due to the cultural and historical significance that the unique geologic feature holds for them. According to Native Sun News, Devil’s Tower, or Mahto Tipila, holds cultural significance to more than 20 native tribes in the area. The land surrounding the volcanic formation is “considered a holy land” which is “used for personal and group rituals for healing and spiritual guidance”. In response to the proposed development, the grassroots, non-profit organization, Defenders of the Black Hills, organized two prayer gathering at the foot of Devils Tower that protested the development and prayed for the protection of sacred lands and burial sites in the area (Naumann, 2014; Naumann, 2016). When given the opportunity to respond to public concerns about the mine, Rare Element Resources did not address the concerns posed by native communities (Fladager, 2013).

Conclusion

The Bear Lodge Mining project appears to serve the job creation interests of local community residents and the metal needs of the national government. The rare earth element mine proposed by Rare Element Resources Ltd of Canada would create create jobs in an economically depressed area and would contribute to America’s growing demand for Rare Earth Elements. Despite this, some consider the mine to be too small to meaningful revolutionize the global market (Storrow, 2014). Additionally, the mine is still subject to the whims of the global market and contributions from investors. This uncertainty calls into question the feasibility and profitability of the mine, especially during such a uncertain generation of mining.

Public Response

Mining proponents value the potential for job creation at this site. It is predicted that 100 jobs would be created (RER FAQ). According to a press release from 2013, Rare Element Resources “received resolutions or letters of support for the Project from three counties, six municipalities, one school district and the Black Hills Regional Multiple Use Coalition” (RER, 2013). The coal industry in nearby Gillette has suffered recent job loss with declines in production meaning that this mining project potentially offers smooth job transitions. This, however, assumes that the job skills required for coal mining transfer to REE mining.
Works Cited


“Project FAQs”. Rare Element Resources. http://www.rareelementresources.com/bear-lodge-project/project-faq#.WoSnfa2ZOi4


Photo Sources
1http://www.rareelementresources.com/bear-lodge-project/overview#.Wo-I55M-fv0
2http://www.rareelementresources.com/bear-lodge-project/overview#.Wo-I55M-fv0