

Trust Funds as Financial Assurance for Mine Reclamation in Alaska¹

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Abstract

Alaska has abundant mineral resources and a proven regulatory framework governing their responsible development. Since 2003, miners have been able to provide a trust fund to meet the financial assurance requirements for mine reclamation in Alaska. However, to date, only one such trust fund has been established. This paper considers some of the economic reasons that may contribute to the apparent underutilization of trust funds as financial assurance instruments for reclamation obligations in Alaska.

A trust fund has the ability to generate revenues over time to pay for activities performed in the future. However, the upfront costs of establishing a trust fund for long-term, post-closure monitoring and maintenance are high compared with more traditional forms of financial assurance instruments. The lack of sufficient economic incentive appears to have resulted in trust funds being underutilized in Alaska. It would appear that the State of Alaska has two broad options to counter this result: 1) seek statutory changes that would allow ADNR to require a specific form of financial assurance instrument be provided by a miner, or 2) seek statutory changes to allow ADNR to accept responsibility for long-term monitoring and maintenance obligations for properly closed mines. Both options would require legislative action and considerable public input to help shape the new policy.

¹ This paper is for discussion purposes only. It does not convey any decision or policy.

Introduction

According to the Environmental Protection Agency (EPA, 1997), “Mining, and the industries it supports, are among the basic building blocks of a modern society.”

The mining industry in Alaska contributes positively to local and state economies by providing jobs, revenues, and infrastructure (Alaska Miners Association, 2014; Southeast Conference, 2014). However, mining also presents society with potential negative impacts (i.e. externalities) and risks (Kramer, 2008; Wilson & Zabriskie, 2010).

Mine reclamation is intended to stabilize or rehabilitate an area following mining activities, avoid further environmental effects, and ensure that the land is compatible with future uses by society. Financial assurance is intended to function as an insurance policy, of sorts, to provide sufficient funds to the government to cover the costs of reclamation if a mining company is unable to fulfill its reclamation obligations (Peck & Sinding, 2009).

The legal framework governing mining activities in Alaska is well defined by statutes and regulations. However, as analysis tools and techniques improve the ability of regulatory agencies to identify and assess the need for long-term care and maintenance activities (e.g. water treatment) to protect the public interest following mine closure and reclamation, traditional forms of financial assurance may be impractical (Kempton, Bloomfield, Hanson, & Limerick, 2010).

In 2003, the Alaska State Legislature approved a statutory amendment that identifies specific forms of financial assurance, including establishment of a trust fund, to satisfy the State of Alaska’s mine reclamation policy (Alaska State Legislature, 2004). Over ten years following the adoption of this policy only one example exists of a trust fund being established for long-term care and maintenance of a mine in Alaska: Illinois Creek Mine near Galena.

In this paper, the author considers some of the economic reasons that may contribute to the apparent underutilization of a law that allows a mining company to establish a trust fund for meeting its long-term care and maintenance or reclamation obligations for mining activities in Alaska.

Literature

Although the literature speaks of reclamation and financial assurance as regulatory requirements and best management practices for mitigating potential negative externalities of mining activities (Kramer, 2008), the recognition of perpetual water treatment and other long-term obligations associated with mining have only more recently been explored in the literature (Kempton, Bloomfield, Hanson, & Limerick, 2010; Peck & Knud, 2009). It is this more recent discussion in the literature that is most applicable to the focus of this paper, but there appears to be a gap in the literature regarding the economic considerations affecting a mining company's selection of a specific financial assurance instrument.

“Reclamation ... is the process through which mines are closed and returned to productive and alternative uses, whether that occurs through development of a golf course or reintegration into wildlife areas” (Kramer, 2008, p. 297). Financial assurance is a funding instrument issued by a financial institution (e.g. bonding company, insurance company, bank, etc.) to ensure that mine sites, and their associated facilities, are not abandoned, and that the approved reclamation plan is fully implemented (Peck & Sinding, 2009).

Because reclamation activities for most mines only take a few years to complete, traditional closure activities are typically guaranteed by financial assurance instruments like operator-funded bonds. Such liabilities are short-term, thus, a guarantee of a lump sum payment to the regulatory agency through a bond or letter of credit from a financial institution is ideal to

mitigate the risk to the public interest of the mining company not fulfilling its reclamation obligations. However, long-term reclamation activities, such as perpetual water treatment or maintenance of dams, require expenditure of funds far into the future. Trust funds are more appropriately suited for these types of permanent commitments because of their ability to generate revenue over time (Kempton, Bloomfield, Hanson, & Limerick, 2010).

However, trust funds, like the long-term commitments they are intended to address, have uncertainties and risks, as well. For example, technical factors can affect the accuracy of reclamation cost estimates; assumptions must be made regarding investment strategies and inflation; the durability of legal structures on which the commitments are formed affect the tenure of the trust fund; and the capabilities of the regulatory institutions to adapt to unforeseen changes can affect how well the trust fund meets its objectives (Kempton, Bloomfield, Hanson, & Limerick, 2010).

Discussion

Mining for locatable minerals such as gold, silver, zinc, or lead can potentially degrade land and water resources through direct disturbance or releases of deleterious substances into the surrounding environment (Wilson & Zabriskie, 2010). Regulatory frameworks are in place in Alaska to avoid, minimize, and mitigate such impacts, but the framework seeks to balance impacts and benefits rather than seek full avoidance of impacts. Established in Article VIII of the Alaska State Constitution, “[i]t is the policy of the State to encourage the settlement of its land and the development of its resources by making them available for maximum use consistent with the public interest.”

Alaska’s regulatory framework governing mining activities has three key components to ensure responsible development of mineral resources consistent with the public interest. First,

the Alaska State Legislature has established a reclamation policy (Alaska Statute 27.19.020), which requires that “[a] mining operation shall be conducted in a manner that prevents unnecessary and undue degradation of land and water resources, and the mining operation shall be reclaimed as contemporaneously as practicable with the mining operation to leave the site in a stable condition.” Second, a reclamation plan must be approved by the commissioner of the Alaska Department of Natural Resources (ADNR) before a miner may engage in a mining operation that disturbs five acres or more of land (AS 27.19.030(a)). Third, a miner must provide “...financial assurance in an amount not to exceed an amount reasonably necessary to ensure the faithful performance of the requirements of the approved reclamation plan” (AS 27.19.040(a)). Acceptable forms of financial assurance in Alaska include surety bond, letter of credit, certificate of deposit, corporate guarantee, payments and deposits into a state managed trust fund, or “any other form of financial assurance that meets the financial test or other conditions set in regulation by the [ADNR] commissioner” (AS 27.19.040(e)).

Despite each of these valuable tools for regulating the mining industry in Alaska, there may be a key weakness when it comes to trust funds. AS 27.19.040(e) requires a miner provide *any* of the listed financial assurance instruments “in a form acceptable to and approved by the [ADNR] commissioner.” Therefore, ADNR may lack the necessary statutory authority to *require* a mining company to provide a *specific* financial assurance instrument; essentially leaving the decision up to the miner.

Peck and Sinding (2009) note the challenges faced by regulatory agencies when trying to protect the public interest by securing appropriate financial assurance for a mining operation:

As for many other activities that cause environmental damage, mines generally do not have motivation to internalise (sic) the external costs they generate unless they are

provided with market incentives or are strictly regulated. Environmental regulation aims to solve the problem, but the combination of high cost at the end of a mine's life and the possibility that it will be bankrupted towards the end of its planned life, makes traditional regulatory solutions difficult. (p. 228)

This is where trust funds could prove to be a reasonable solution, assuming the inherent uncertainties are effectively managed.

Trust funds that are established during the production phase of mining, when corporate profits are highest, can better ensure that adequate funding is available to capitalize the fund with sufficient principle to meet the costs of long-term reclamation obligations. However, if the decision to select from the list of acceptable forms of financial assurance is an economic one made by the mining company, then what incentives exist for a mining company to select a trust fund over other more traditional instruments?

A typical mining company can expect to pay between 1% and 4% of the approved reclamation and closure cost each year during the permit cycle – typically five years – to secure traditional forms of financial assurance, such as bonds and letters of credit (Brooklyn Ventures LLC, 2014). In contrast, the principle cost of a trust fund must be fully capitalized.

Hypothetically, a \$100 million dollar financial assurance obligation would cost a mining company between \$1 million and \$4 million annually to maintain. Assuming an average cost of \$2 million annually, it would cost the company \$20 million to maintain a \$100 million surety bond or letter of credit for 10 years. During that same period, it would cost the company approximately \$8.3 million annually (\$83 million total) to capitalize a \$100 million trust fund,

assuming equal annual installments with a 4% rate of return². Assuming a 2% rate of return, the total cost to the company over 10 years would be approximately \$91 million (\$9.1 million annually); again, assuming equal annual installments and full reinvestment with no withdrawals over the 10 year period.

It's relatively easy to see that the company could meet their financial assurance requirements through a traditional surety bond or letter of credit for many years at a total cost far lower than the cost of fully capitalizing a trust fund up front. However, each year the trust is not funded the necessary starting principle increases due to the time value of money. Regardless, trust funds will rarely cost a company less, at least in the short-term, than a traditional bond or letter of credit.

The main incentive for mining companies to establish a trust fund for long-term mine reclamation may be the potential of relinquishing all responsibility of the mine site following closure; an approach taken by the province of Saskatchewan, Canada. According to Kempton, Bloomfield, Hanson, and Limerick (2010, p. 561), “[a]fter [mine] closure, the government [of Saskatchewan] can accept responsibility for land that ‘requires long-term monitoring and... maintenance’ under the Institutional Control Program.” This program requires the mining company to develop a detailed post-closure monitoring and maintenance plan for the site and to deposit sufficient funds into the Institutional Control Monitoring and Maintenance Fund to cover future costs of the work in perpetuity (Kempton, Bloomfield, Hanson, & Limerick, 2010). The government of Saskatchewan minimizes some risks to the public by “delaying acceptance into

² $\sum_{i=0}^9 8300000 \cdot e^{0.04 \cdot i} = \$100,026,159$

the ICP program until a mine has been closed and monitored for 10 years to identify water quality trends and by denying entry if water quality is trending worse” (p. 561). With net yields on these perpetual funds based on government bonds (~2%), it appears that mining companies are willing to accept a lower rate of return, and thereby a higher starting principle amount to capitalize the fund, for the opportunity to release themselves from responsibility of perpetual water treatment or other long-term obligations. Since mining companies tend to be global corporations, incentives that have proven effective in Saskatchewan, Canada may also be effective in Alaska. However, changes to existing state laws and policies by the Alaska State Legislature would likely be necessary before state regulatory agencies could employ such an incentive in Alaska.

Conclusion

A trust fund has the ability to generate revenues over time to pay for activities in the future, which would better serve the public interest with regards to maintaining land and water resources in a stable condition compatible with future uses following mining. However, the upfront costs of establishing a trust fund for long-term, post-closure monitoring and maintenance are high compared with more traditional forms of financial assurance instruments.

Despite the fact that the State of Alaska allows for a mining company to meet its financial assurance obligation through establishment of a trust fund, the lack of economic incentives has resulted in this option being underutilized.

It would appear that the State of Alaska has two broad options to counter the underutilization of trust funds for long-term reclamation activities at mines in Alaska: 1) seek statutory changes that would allow ADNR to require a specific form of financial assurance instrument be provided by a miner, or 2) seek statutory changes to allow ADNR to accept

responsibility for long-term monitoring and maintenance obligations for properly closed mines. From an economic perspective, the latter option is more reasonable, and provides a stronger incentive to a mining company to establish a trust fund early on in the development of the mine to maximize revenue. Such an approach may have greater capability to protect the public interest in perpetuity. However, both options would require legislative action and considerable public input to help shape the new policy.

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