# ALASKA LARGE MINE RECLAMATION BONDING – 2005

David M Chambers

**Abstract**.

Reclamation bonds, or by their more formal name financial sureties, are the financial instruments that guarantee that mines will be closed according to their state and federal permit requirements even if the operating company goes bankrupt and is financially unable to meet these obligations.

The Center for Science in Public Participation has conducted a series of detailed analyses of the reclamation bonds required of Alaska's large mines by state and federal regulators. These 'bonds' represent monies to cover liabilities that the state/federal government would likely incur if a company operating a mine could no longer meet its obligation under issued permits to safely close a mine.

The results show the total amount the Center for Science in Public Participation estimated Alaska regulatory agencies should be holding to fully protect the public is significantly larger than the actual amounts held.

The Alaska Legislature has recently adopted legislation that allows mine operators to provide a "corporate guarantee" as financial assurance for mine closure. Regulations implementing this authority, when drafted, should incorporate a rigorous means-test to insure that corporations which are allowed to use the corporate guarantee are in no danger of putting the corporate guarantee at risk.

In exchange for the financial flexibility and cost efficiency of a corporate guarantee, the State also needs to implement more rigorous reclamation cost calculation procedures which reflect the actual costs that are likely to be incurred by the public sector in the event a mining company goes bankrupt and a regulator is forced to close the minesite.

# ALASKA LARGE MINE RECLAMATION BONDING – 2005[1]

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Reclamation bonds, or by their more formal name financial sureties, are the financial instruments that guarantee that mines will be closed according to their state and federal permit requirements even if the operating company goes bankrupt and is financially unable to meet these obligations.

The Center for Science in Public Participation (CSP2), a non-profit public interest organization that provides technical services to public interest groups and tribal governments, has conducted a series of detailed analyses of the reclamation bonds required of Alaska's large mines by state and federal regulators.[3] These 'bonds' represent monies to cover liabilities that the state/federal government would likely incur if a company operating a mine could no longer meet its obligation under issued permits to safely close a mine. Bonds for mines are required under Alaska statutes that require reclamation planning, administered by the Alaska Department of Natural Resources,[4] and by solid waste regulations administered by the Alaska Department of Environmental Conservation[5] when the mine waste meets criteria for solid waste designation.[6]

CSP2 analyzed five large mines in Alaska – Fort Knox, True North, Greens Creek, Pogo and Kensington. The Red Dog was not analyzed because the reclamation plan is undergoing major revision and the Solid Waste Permit is just being put into place. Fort Knox, True North, Greens Creek and Red Dog are operating mines. The Pogo mine is under construction, and is expected to go into operation in the first quarter of 2006. Kensington mine construction was proposed to begin in mid-2005, but has been delayed by legal challenge to the Army Corps of Engineers Section 404 permit, which would have allowed the disposal of mine tailings into a natural lake for the first time under the Clean Water Act.

Alaska has had one major mine bankruptcy, the Illinois Creek Mine operated by USMX/Dakota Mining (1999), and the $1.6 million bond held by the State was not adequate to close the mine. However, the state was able to contract with a company to continue operating the mine while using mining revenues to pay for closure.

In its calculation for the mine bond, CSP2 produced at least 3 closure scenarios for each mine.[7] The first scenario replaced the assumptions made by the company or agency in its bond calculations. A second CSP2 bond scenario assumed 'worst case' conditions, which

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[3] The mine-by-mine analysis was conducted in 2003-2004 by Sarah Zuzulock, CSP2, Bozeman, MT, with the assistance of Jim Kuipers, Kuipers & Associates, Butte, MT, and David Chambers, CSP2, Bozeman, MT.

[4] See Alaska Statutes Title 27, Chapter 19, Section 40

[5] See Alaska Administrative Code, Title 18, Chapter 60, Section 455

[6] ADEC has determined that tailings and waste rock with the potential to produce acid mine drainage will need to be permitted and bonded under Alaska solid waste regulations.

[7] Detailed spreadsheets for each of the five mines analyzed are available at www.csp2.org/reports. Calculations include spreadsheets for each detail of the calculation, including labor and equipment rates, amounts of material moved, and all assumptions made in the calculations.

were generally associated with the need for water treatment in perpetuity at mines with acid-producing mine waste (e.g. Red Dog and Greens Creek). A third scenario was CSP2's most-probable case assumption, i.e. a case that generally follows the predictions for closure conditions adopted by the agencies in their mine analyses. This scenario incorporates all of the direct and indirect costs CSP2 has identified in its research as critical to fiscally sound mine closure. In particular, the indirect costs are often underestimated or ignored during bond calculation by companies and/or agencies.

These indirect reclamation costs include:

- *Contingency*: Contingency costs reflect the level of detail and completeness of the cost estimate, as well as the degree of uncertainty of factors and assumptions used in the cost estimate.
- *Mobilization / Demobilization*: Mobilization/demobilization costs account for the transport of equipment and materials to and from the mine site, as well as infrastructure needs.
- *Engineering Redesign*: Engineering redesign costs stem from a lack of detailed information and plan development in a financial assurance estimate, as well as the need to account and design for actual conditions at the time of reclamation and closure.
- *Engineering, Procurement, Construction Management*: This indirect cost accounts for the requirement of construction engineering, procurement, and construction management on behalf of the agencies in the event they become responsible for reclamation.
- *Contractor Overhead*: Contractor overhead accounts for administrating, management, public relations, safety, environmental, legal, performance bonding and other costs associated with doing business.
- *Contractor Profit*: This indirect cost accounts for contractor profit.
- *Agency Administration*: Agency administration includes costs incurred by state and federal agencies in situations where reclamation and closure are performed by regulatory agencies.
- *Inflation*: Inflation indirect costs account for the difference in the dollar value between the time the estimate was generated and reclamation and closure are performed.

Table 1 shows the bond amounts currently held by both state and federal regulatory agencies in Alaska, and the CSP2 calculation that was interpreted to be the most probable, i.e. mid-range calculation of the bond amount. This took into account the factors outlined above, which in all cases increased the reclamation calculation over the actual amount held by the agencies.

**Table 1. Alaska Reclamation Bonds.**

| MINE | CSP2 BOND ESTIMATE | ACTUAL BOND |
|---|---|---|
| Fort Knox | $46,620,799 | $12,150,415 |
| Red Dog | $100,000,000 | $21,010,250 |
| True North | $4,825,061 | $2,536,874 |
| Greens Creek | $35,409,797 | $26,238,518 |
| Kensington | $9,216,416 | $7,354,000 |
| Pogo | $34,560,335 | $26,654,432 |
| | ========== | ========== |
| **TOTAL** | $230,632,408 | $95,944,489 |

## Reclamation Surety Analysis

As can be seen from the Table 1 results, the total amount CSP2 has estimated Alaska regulatory agencies should be holding to fully protect the public against is significantly larger (approximately $135 million) than the actual amounts held.

The difference between the CSP2 estimates and actual amount held varies between approximately 25% at the Greens Creek and Pogo mines, to almost 75% at Fort Knox. There is a significant difference (79%) at Red Dog, but it is acknowledged by all parties that the bond amount currently being held for this mine does not approach a realistic reclamation cost estimate, and that the reclamation planning and permit evaluation currently underway for Red Dog will provide the information necessary to calculate an appropriate bond estimate.

For the mines analyzed in this study, the difference between the CSP2 estimates and the actual amount held by government regulatory agencies suggest that regulatory agencies may be 58% under funded.

## Structural Changes to Alaska Reclamation Bonding

In 2004 the Alaska Legislature passed a bill authorizing the Department of Natural Resources to accept corporate guarantees as one form of financial surety for mine reclamation. A corporate guarantee is a pledge from a company to perform reclamation at a minesite, as opposed to requiring a financial surety in a readily available form like cash, bonds, letters of credit, etc. Several states presently allow corporate guarantees (Arizona, Colorado, Nevada, Utah and Wyoming).[8] Michigan also passed a law authorizing corporate guarantees in 2004, but Michigan limits the corporate guarantee to 25% of the reclamation amount.

[8]James R Kuipers, 2000

Regulations implementing Alaska's new statutory authority for corporate guarantees have yet to be implemented. In implementing a viable corporate guarantee strategy under the Alaska statute, it will be important to incorporate a rigorous means-test to insure that corporations which are allowed to use the corporate guarantee instead of traditional financial assurance vehicles are in no danger of putting the corporate guarantee at risk. Periodic checks should also be performed to assure that the company's financial status has not changed enough to place the corporate guarantee at risk.

A second consideration of the corporate guarantee is that the State should no longer be reluctant to calculate to full cost of reclamation for a minesite. Corporate guarantees allow a company much more flexibility in meeting the demands of a financial surety for its reclamation obligation. Corporate guarantees are also the least expensive way for a company to provide these guarantees. In exchange for this financial flexibility and cost efficiency, the State needs to implement more rigorous reclamation cost calculation procedures which reflect the actual costs that are likely to be incurred by the public sector in the event a mining company goes bankrupt and a regulator is forced to close the minesite.

## Conclusion

Reclamation Sureties for Alaska Large Mines have been significantly underestimated by both State and Federal Regulatory Agencies, an average ≈ 43% -- without considering obviously deficient bond at the Red Dog Mine.

## Recommendations

1. Alaska DNR, in developing regulations for implementing its authority to utilize corporate guarantees, should set a high threshold for a company to qualify for the corporate guarantee. Bankruptcy of a company that is using a corporate guarantee means that State would have no money for reclamation.
2. Alaska DNR should hire a professional consulting firm to calculate mine reclamation sureties. At present the State always starts with the company's estimate as a basis for the reclamation cost. The State would be better served to get an independent estimate of these costs.
3. With the availability of a corporate guarantee, Alaska DNR should not be reluctant to calculate a conservative estimate for the reclamation surety. In the one instance for a large mine in Alaska where the State has had to call in a reclamation bond, the bond required by the State was not adequate to close the mine. DNR needs to make sure it is protecting Alaska taxpayers and the environment by requiring an adequate reclamation bond.

## Literature Cited

Kuipers, James R., 2000, p. I-14, Hardrock Reclamation Bonding Practices in the Western United States, Center for Science in Public Participation, Bozeman, MT.