

## **Kennecott Utah Copper Tailings Impoundment Seismic Upgrades March 23, 2008**

### **External Media Statement:**

For the last 20-plus years, Kennecott Utah Copper has spent more than a half billion dollars seismically upgrading the south tailings impoundment, which included constructing the new north impoundment in Magna, Utah, to transition off the south. This seismic upgrade is the largest in Utah's history.

It has been a priority for Kennecott to understand and address seismic stability concerns regarding the tailings impoundment since becoming aware of potential issues in the late 1980s. As a result of the stabilization efforts on the tailings impoundment and transition to the new north impoundment, the embankment has been seismically upgraded. The current analyses shows that only in the event of a catastrophic earthquake, measuring Magnitude 7.25, could tailings possibly run out onto Hwy 201. No homes or structures in Magna would be affected by the release.

As a leading business, employer and community contributor in the Salt Lake Valley for 105 years, Kennecott has gained tremendous experience in anchoring core business principles around safe, transparent, environmental and socially sound business practices. The company strives to involve communities on issues that affect them while continually working to improve performance in every aspect.

We cannot answer questions about decisions of previous managers, many of whom are no longer with the company, nor can we verify if allegations in the confidential memo were true. What we can say is that today, we would have engaged our community stakeholders earlier in the process on such important issues that might affect them.

### **Seismic Upgrade Background:**

The south impoundment began receiving tailings in 1906 and operated through 2001 when a transition was made from the south impoundment to the seismically engineered, state-of-the-art north impoundment. Kennecott Utah Copper began seismically upgrading its south tailings impoundment in the late 1980s after hiring two independent geotechnical engineering firms to conduct extensive studies of the possible effects of a significant earthquake. The engineers consider a catastrophic earthquake in this area to measure approximately M 7.25 on the Richter scale. This magnitude earthquake has been determined to be the largest earthquake event that could reasonably be expected to occur at this site and is expected to occur once every 1,350 years.

In light of these engineering studies, Kennecott began to implement the following measures in the late 1980s to reduce the extent of a release of material (adjacent

to Hwy 201) resulting from this unlikely, but potentially catastrophic earthquake scenario:

### ***Steps Taken to Reduce Risk to Magna Residents***

- **Dewatering Efforts:** Beginning in the late 1980s, dewatering of the south and east slopes of the southeast corner of the tailings impoundment occurred to remove water. This process included the installation of more than 40 dewatering wells, 1,500 wick drains and 215 horizontal drains along this portion of the impoundment. This dewatering program has successfully improved the stability of the impoundment. It has progressed so well that the plan is 10 years ahead of schedule.
- **Stepback Dikes:** Beginning in 1991 and continuing through the late 1990s, Kennecott began reducing the slope of the southeast corner and moved tailings more than half a mile away from the slope. Tailings deposition on the south impoundment completely ceased in 2001.
- **Transition of tailings deposition to the North Impoundment:** Following an extensive permitting effort that started in the early 1990s and an expenditure of more than a half billion dollars, Kennecott closed the south impoundment and transitioned all operations to a seismically engineered state-of-the-art north impoundment approximately two miles to the north. This allowed Kennecott to reclaim the south impoundment by vegetating the slopes and top surface.
- **Berms at Southeast Corner:** By 1998, Kennecott's two independent geotechnical engineering firms projected that a release from the impoundment would not reach any residential areas during a catastrophic earthquake. As an extra precaution, Kennecott constructed "L" shaped tapered earthen berms approximately 15-feet high near a neighborhood south of the impoundment on 80<sup>th</sup> west and a residence to divert any potential release.
- **Roadway Notification System:** Kennecott installed warnings signs along Highway 201 which are triggered from seismic monitoring instruments (accelerometers) located around the facility. In the event of a large earthquake, pre-programmed messages would automatically be sent to the signs to advise motorists not to enter and avoid potentially hazardous areas.
- **Public Notification:** In 1998, Kennecott engaged in a significant public process in the Magna area to inform the community and agencies of the improvements that were planned or had taken place to improve the safety of the south tailings impoundment. This notification process continued for several years.

