

Donlin Gold Mine: World's Largest Open Pit Gold Mine

Background and Analysis of Potential Tailings Failure



ABOUT DONLIN GOLD MINE

- Donlin Gold, LLC plans to develop one of the world's largest open-pit gold mines in the Yukon-Kuskokwim Delta of southwestern Alaska.
- Stretching over 700 miles, the Kuskokwim River is the second largest river in Alaska and a resource for subsistence fishing for the Yup'ik, Cup'ik, and Athabascan people.
- The Mine infrastructure will span across multiple tributaries to the Kuskokwim River, approximately over a 25-square-mile footprint.
- The Donlin Mine tailing storage facility (TSF) is the equivalent of 175,000 Olympic-sized swimming pools.
- The Biden Administration has failed to adequately study the effects of dam failure of the Donlin TSF.
- At least 13 Alaskan Tribal Governments, thousands of stakeholders, along with regional and national Native organizations have called on the Biden administration to conduct a thorough, supplemental EIS.

AN INDEPENDENT ANALYSIS OF POTENTIAL TAILINGS STORAGE FAILURE

- Lynker Intel conducted an independent analysis of a Donlin Mine TSF failure.
- The Donlin Mine TSF would sit at the headwaters of Anaconda Creek, approximately 10 miles upstream of the village of Crooked Creek, near the confluence of the Kuskokwim River.
- Although total failure of the Donlin Mine TSF is very unlikely, any release from the TSF would pose a significant threat to downstream communities with the potential for devastating and long-term ecological impacts along the Crooked Creek and Kuskokwim River watersheds as a whole.

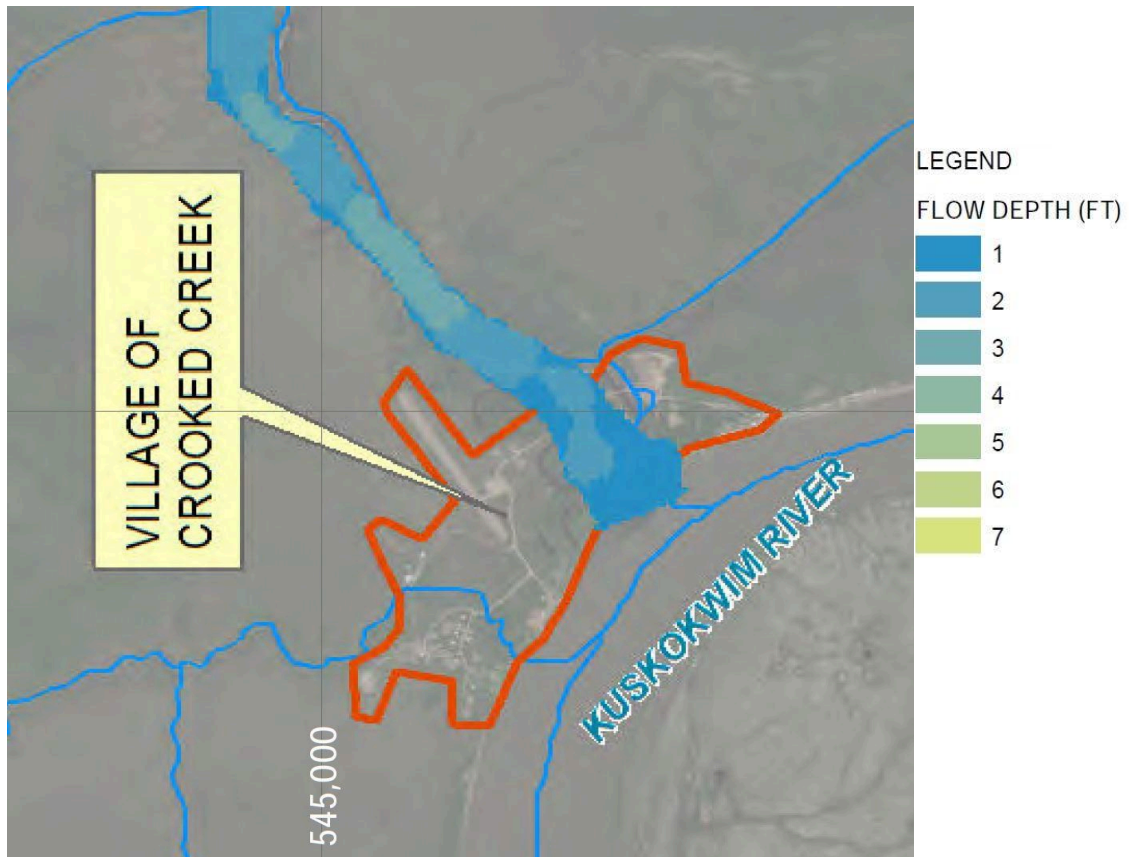
THE FINDINGS: SIGNIFICANT AND WIDESPREAD IMPACTS OF DAM FAILURE

- **Infrastructure Destroyed:** A significant dam failure of the Donlin Mine TSF would destroy most infrastructure between the dam and the Kuskokwim River, including the village of Crooked Creek. The impacts would extend further downstream into all reaches and floodplains of the Kuskokwim River below Crooked Creek.

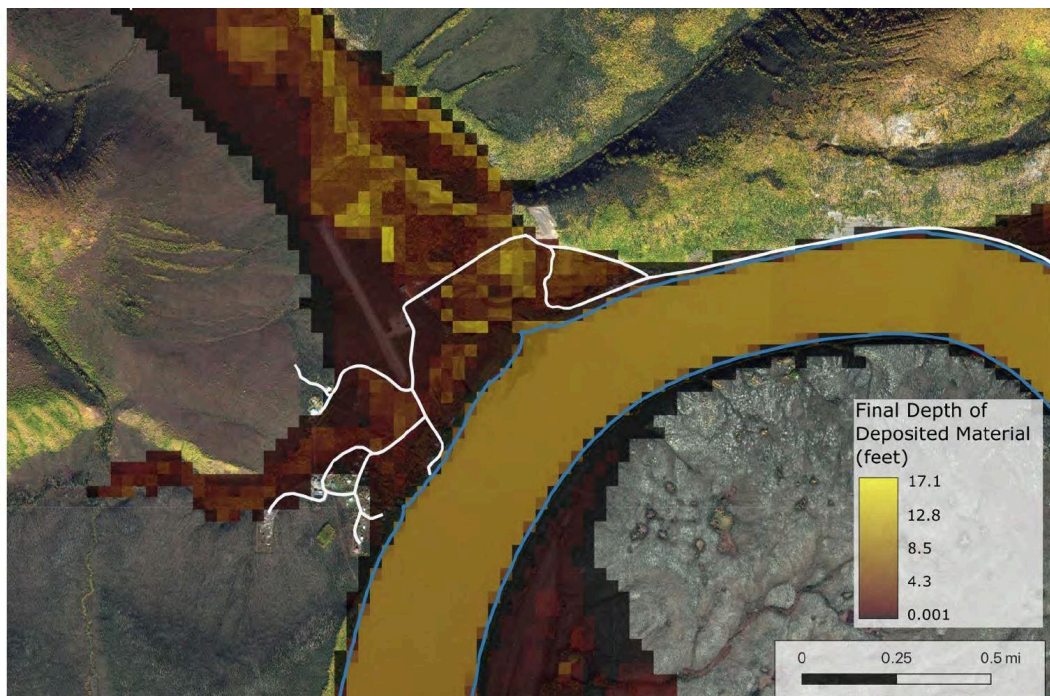
- **Potential Loss of Life:** A catastrophic failure of the proposed Donlin Mine TSF poses significant risk to the village of Crooked Creek, with the debris wave arriving as quickly as 60 minutes after the breach initiation. In the absence of a rapid and total evacuation, such an event could lead to significant loss of life. The EIS failed to identify this risk. On the following page are figures showing the areas of Crooked Creek identified as at-risk by the EIS (BGC 2015), and that identified by Lynker (2024). Public buildings like schools, public safety, and medical facilities, should not be built in zones that could be inundated. The EIS predicted no more than 2 feet of inundation in Crooked Creek, while the Lynker modeling predicts tailings over 15 feet deep in places in a worst-case failure.
- **Threats to Salmon and Subsistence Species:** Subsistence fishing rights are federally protected under The Alaska National Interest Lands Conservation Act (ANILCA). Infrastructure to support the Donlin Mine poses risks to subsistence species from increased usage of river barges and construction of a 313-mile natural gas pipeline. Barge traffic is expected to increase 200% along the Kuskokwim River, which “would potentially impact salmon, broad and humpback whitefish, sheefish, and rainbow smelt, all subsistence species important to villages on the Kuskokwim River.”
- **Release of Toxins:** In addition to physical disturbances from the proposed mining operations, there are also possible risks from gold mining byproducts such as mercury and cyanide and other toxic heavy metals like arsenic, cadmium, and lead. The effects of these chemicals in the environment have the potential to affect survival, growth, and functions in plants, animals, and humans.

URGENT ACTION NEEDED BY BIDEN ADMINISTRATION

- The final Environmental Impact Statement from the U.S. Army Corps of Engineers fails to look beyond the lowest-end possibility of a dam breach and is inconsistent with peer-reviewed data on historical TSF failures such as those at Mount Polley (British Columbia, Canada) and Brumadinho (Minas Gerais, Brazil).
- Failure to evaluate more significant TSF failures means there is no opportunity for emergency planning to prevent loss of life, potential contamination of the Kuskokwim River, and habitat destruction of endangered species.
- The U.S. Army Corps of Engineers must perform a supplemental, thorough EIS to ensure the safety of the communities and protection of wildlife along the Kuskokwim River.



Crooked Creek Inundation Zone – BGC 2015
(Note the airport runway in each picture for orientation and scale comparison)



Crooked Creek Inundation Zone – Lynker 2024