

**"Environmental Geochemistry of Metals Associated with Abandoned Gold Mines on Unga Island, Alaska: Developing an Understanding of Water Quality on Unga Tribal Lands"**

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Abstract: The Aleuts of Unga Island have lived a subsistence way of life for centuries and depend upon the quality of natural resources of the land and sea for nearly every need. There are two main streams feeding into Delarof Harbor on Unga Island that come into contact with water draining from the abandoned Apollo and Sitka gold mines. Metal sulfide and gold mines are a prominent anthropogenic source of metals to many environments on a global scale, although metals do occur naturally in bedrock. The gold deposits on Unga Island were formed from hydrothermal activity associated with intrusive and volcanic rocks. The weathering of these deposits may release toxic metals into the environment. The Unga Tribe has expressed concerns about quality of their water and the possibility of contamination in the streams that are associated with abandoned gold mines on Unga Island. This research will determine the source(s), transport, and fate of metals associated with the mineralized sites on Unga Island with a focus on the Apollo and Sitka gold mine sites. We will work in conjunction with the community partners from the Unga Tribe and the Aleutian Island Pribilof Association throughout the project.