

## An overview of select Proposed Mines in Alaska

Mining Corporations have staked numerous claims on state, federal and Native corporation lands in Alaska. Many of these mining sites will never become fully operational mines, and it is difficult to predict which sites will eventually be promoted by the claim holder or permitted by regulatory agencies. Even after significant exploration and investment by a mining company, there is no guarantee that a mine will become operational. This paper provides an overview of proposed mines that are in advanced stages of exploration or have begun pre-permitting or permitting. These mines are at the stage where public involvement and opinions can best shape the course of action taken by the State and Federal Governments. This is by no means a comprehensive list of proposed mines, but it does discuss notable mine proposals and some of the environmental impacts associated with them.

### **Chuitna Coal project**

PacRim Coal proposes to develop the Chuitna coal mine approximately 45 miles west of Anchorage in the Chuit river watershed. It would be a surface mining operation, expected to operate for 25 years. PacRim Coal has not submitted a full permitting application; however, the EPA evaluated the proposed mine with an Environmental Impact Statement in 1990. The EPA determined that "the proposed project has the potential to cause significant impacts to the environment."<sup>1</sup> The EPA is preparing a supplemental Environmental Impact Statement to reassess the potential impacts of the mining operations.

The Chuit River is a popular fishing location for king salmon, silver salmon and rainbow trout.<sup>2</sup> External reviews of the proposed plans commissioned by Trustees for Alaska, a public interest law group, raised concerns about the effects of the mining operation on wildlife and aquatic ecosystems in the region.<sup>3</sup> There is a lack of evidence that the salmon spawning ecosystem could be restored to its previous productivity level if mining took place. According to Lance Trasky, retired habitat biologist for the Alaska Department of Fish and Game, an extensive search of literature and discussions with experts "did not yield one example of where a strip-mined salmon spawning and rearing stream and its associated watershed and aquifer have been successfully restored."<sup>4</sup>



Additionally, the ore deposit contains significant amounts of arsenopyrite, a sulfur containing mineral known to cause acid mine drainage, a highly acidic toxic solution frequently contaminated with toxic metals such as arsenic, mercury and lead.<sup>5</sup> Former mines in the Kuskokwim watershed region have produced acid mine drainage,<sup>6</sup> and the scale of the proposed Donlin Creek mine raises concerns about the effects that acid mine drainage would have on the Kuskokwim River watershed. It is unclear whether buffering rocks at Donlin can offer protection from AMD. The Kuskokwim River supports fisheries important to both subsistence users and commercial fisherman. Degradation of the Kuskokwim River watershed would have significant implications for the health and prosperity of many Alaskans.

### **Western Arctic Coal**

In 2006 BHP Billiton, the world's largest mining company<sup>7</sup> proposed to develop the Western Arctic Coal project. The Western Arctic Coal fields hold approximately one ninth of the worlds remaining coal reserves. In early 2009, BHPB ceased exploration activities and began site reclamation, citing "BHPB's internal economic hurdles required for long-term development were not being met within today's financial environment."<sup>8</sup> This does not restrict BHP from resuming exploration or mining activities in the future. The Western Arctic coal fields lay under productive caribou and seasonal bird habitat in an area used extensively by Alaska Natives for subsistence. It is likely that more exploration projects and proposals will take place due large amounts of high quality coal in the deposit. BHPB is in the best position to resume activities due to its previous work on the site.

### **Niblack project**

The Niblack Mining Corporation has begun as exploratory project on the southeastern portion of Prince of Wales Island. The Niblack project is under development to provide access to drill into deeper mineral sites. The primary minerals on site are copper, zinc, gold and silver. The project would create 6,000 feet of under ground tunnels while removing 60,900 cubic yards of waste rock. Ore concentrate from the Niblack Mine would be shipped to external ore processing sites.<sup>9</sup>

A portion of the waste rock produced by the mine site will be potentially acid generating.<sup>10</sup> According to the proposed plans, potentially acid-generating ore will be stored onsite during exploration and back filled into the tunnel after exploration. Presently there is no comprehensive plan for acid generating waste if mining operations commence after exploration. The proposed Niblack mine is located on Niblack Fault<sup>11</sup>; earthquakes could potentially damage mine infrastructure causing unforeseen environmental impacts.

### **Golden Summit project**

Freegold Ventures limited proposes to develop the Golden Summit project approximately 20 miles from Fairbanks, Alaska. It is accessible with the existing road system. In fact, the Steese Highway runs through the proposed mining site, increasing the chances that the public could be exposed to toxic substances such as mining dust. The proposed mine would be an open pit mine, utilizing heap leaching to extract gold.<sup>12</sup> The heap leaching process involves piling gold ore and saturating it with cyanide solution. Gold bearing solution is then collected from the bottom of the heap.

Some of the rock at the Golden Summit site is sulfide bearing, creating the potential for acid mine drainage. There is also evidence of toxic metals including arsenic, antimony and lead within the mining site.<sup>13</sup> The close proximity of the mine site to Fairbanks raises concerns about emissions of toxic mine wastes.

### **Pebble project**

Northern Dynasty Minerals Ltd. and Anglo American PLC formed the Pebble Partnership in 2007. The Pebble Project is located in the Bristol Bay watershed less than 20 miles from the village of Iliamna. There are two mineral deposits within the Pebble mine project area: Pebble West is a surface deposit that would be mined utilizing open pit techniques; Pebble East is a deeper deposit that would be mined with underground mining methods.<sup>14</sup> If completed, the Pebble project would produce 8.1 billion tons of waste.<sup>15</sup> Currently, Trustees for Alaska, a public interest law group, is bringing a suit against the State of Alaska for issuing permits for Pebble exploration without proper notice and without consideration of public interest.<sup>16</sup>

The proposed mine would include approximately 100 miles of road for the transportation of ore. The road would cross as many as 120 streams. Stream crossing are known to cause significant barriers to fish migrations.<sup>17</sup> In a series fish passage inventory projects, the Alaska Dept. of Fish and Game found the majority of culverts studied were inadequate for fish passage.<sup>18</sup> The majority of the ore at Pebble is sulfide bearing;<sup>19</sup> it is almost certain acid mine drainage will be present; it is unclear whether it could be controlled. The Bristol Bay region of Alaska supports world class commercial and subsistence fisheries,<sup>20</sup> and the proposed Pebble mine is situated in the Bristol Bay watershed. Environmental degradation of the Bristol Bay fisheries would have significant impacts on subsistence and commercial fishery resources. In December 2009, the Bristol Bay Native Corporation passed a resolution opposing the development of Pebble Mine.<sup>21</sup>

### **Conclusions**

The public and tribes must be consulted and have the opportunity to participate in mining regulatory decisions and planning to ensure the protection of sensitive lands, water, and communities from harmful mining operations. For more information on getting involved in mine permitting issues, contact the organizations below or see

the fact sheet titled: "A Guide to Community Involvement in Mine Permitting".

**REDOIL**  
**PO Box 74667**  
**Fairbanks, AK 99707**  
**Tel: (907) 750-0188**  
**[www.ienearth.org/recoil.html](http://www.ienearth.org/recoil.html)**

**ACAT**  
**505 W. Northern Lights, Suite 205**  
**Anchorage, AK 99503**  
**Phone: (907) 222-7714**  
**Fax: (907) 222-7715**  
**[www.akaction.org](http://www.akaction.org)**

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<sup>1</sup> Chuitna coal Project. SEIS project website. Available: <http://www.chuitnaseis.com/default.htm>

<sup>2</sup> Alaska Department of Fish and Game: Sport Fish Division. Chuit River Overview. Available: <http://www.sf.adfg.state.ak.us/SARR/access/index.cfm/FA/chuit.overview>

<sup>3</sup> Palmer M. Report on Chuitna Coal Project of PacRim Coal Trustees for Alaska . Available: <http://www.trustees.org/Supporting%20Documents/Palmer%20Final%20-%2020090402.pdf>

<sup>4</sup>Trasky L. Report on Chuitna Coal Project Aquatic Studies and Fish and Wildlife Protection Plan. Trustees for Alaska. Available:

<http://www.trustees.org/Supporting%20Documents/Trasky%20Final%20ReportAug17.pdf>

<sup>5</sup> Hanson, K. Seibel G, Allard S, Wortman G, Kozak, A. AMEC Nova Gold Resources Inc. Donlin Creek Gold Project, Alaska, US ANI 43-101 Technical Report

<sup>6</sup> USGS. 1999. Spatial Distribution of Chemical Constituents in the Kuskokwim River, Alaska. Water-Resources Investigations Report 99-4177

<sup>7</sup> BHP Billiton. About BHP Billiton. Available:

<http://bhpbilliton.com/bbContentRepository/docs/companyProfile2009.pdf>

<sup>8</sup> BHP Billiton. 2009. Exploration Termination Letter to Alaska Division of Natural Resources: Western Arctic Coal Project Coal Exploration Permit: 03-84-295

<sup>9</sup> Niblack Mining Corporation. 2007. Niblack Project Underground Exploration Plan of Operations.

Available: <http://dnr.alaska.gov/mlw/mining/largemine/niblack/pdf/poo.pdf>

<sup>10</sup> Alaska Coastal Management Program. 2007. Project Data sheet: Nilback Anchorage (Mine Exploration Phase) Available: [http://alaskacoast.state.ak.us/Projects/Niblack/070403J\\_SU.pdf](http://alaskacoast.state.ak.us/Projects/Niblack/070403J_SU.pdf)

<sup>11</sup> Nilback Mining Corp. 2006. Nilback Exploration Project Prince of Wales Island, SE Alaska. Available: <http://www.seconference.org/pdf/Green-NiblackMining.pdf>

<sup>12</sup> FreeGold Venture Limited. 2008. Freegold Core Drilling Extends Depth of Bulk Tonnage Mineralization at Golden Summit. Available: <http://www.freegoldventures.com/i/pdf/100208ITF.pdf>

<sup>13</sup>FreeGold Recovery Inc. 2008. Geological Report GS08EXE-1: Executive Summary Report for the Golden Summit Project Fairbanks Mining District, Alaska. Available:

[http://www.freegoldventures.com/i/pdf/GS08EXE1-Form43F\\_fin.pdf](http://www.freegoldventures.com/i/pdf/GS08EXE1-Form43F_fin.pdf)

<sup>14</sup> Alaska Resource development council. Alaska's Mining Industry. Available:

<http://www.akrdc.org/issues/mining/overview.html>

<sup>15</sup> US Supreme Court Brief:Nos. 07-984 & 07-990. *Coeur Alaska Inc. (Petitioner) v. Southeast Alaska Conservation Council. et al., (respondents.)*.

<sup>16</sup> Trustees for Alaska. Compliant for declaratory and injunctive relief: *Nunamta Aulukestai, et al. v. State of Alaska, Dept. of Natural Resources*. Available:

<http://www.trustees.org/Supporting%20Documents/Photos/First%20Amended%20Complaint.pdf>

<sup>17</sup> Hauser WJ. 2007. Potential Impacts of the Proposed Pebble Mine on Fish Habitat and Fishery Resources of Bristol Bay. Fish Talk Consulting.

<sup>18</sup> Alaska Department of Fish and Game. Fish Passage Improvement Program: Fish Passage Inventory Projects. Available: [http://www.sf.adfg.state.ak.us/SARR/Fishpassage/FP\\_inventory.cfm](http://www.sf.adfg.state.ak.us/SARR/Fishpassage/FP_inventory.cfm)

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<sup>19</sup>Northern Dynasty Minerals. 2009. Technical Report on the 2008 Program and Update on the mineral Resources and Metallurgy Pebble Copper-gold-molybdenum Project Iliamna Lake Area Southwestern Alaska, U.S.A. Available: [http://www.hdgold.com/i/pdf/ndm/2009-02-13\\_NI43-101.htm](http://www.hdgold.com/i/pdf/ndm/2009-02-13_NI43-101.htm)

<sup>20</sup> Alaska Department of Fish and Game. 2008. Fishery Management Report No. 09-30. 2008 Bristol Bay Area Annual Management Report. Available: <http://www.sf.adfg.state.ak.us/FedAidPDFs/FMR09-30.pdf>

<sup>21</sup> Bristol Bay Native Corporation. 2009. BBNC Board of Directors Passes Resolution to Protect Bristol Bay Resources By Opposing the Pebble Mine Project. Available: [http://www.bbnc.net/index.php?option=com\\_content&view=article&id=103:bbnc-board-of-directors-passes-resolution-to-protect-bristol-bay-resources-by-opposing-the-pebble-mine-project&catid=36:news-a-events&Itemid=44](http://www.bbnc.net/index.php?option=com_content&view=article&id=103:bbnc-board-of-directors-passes-resolution-to-protect-bristol-bay-resources-by-opposing-the-pebble-mine-project&catid=36:news-a-events&Itemid=44)