



## **Tailings Treatment Facility – ARD Remediation Plan**

**Revision 1**

**June 10, 2013**

### **Introduction:**

The Kensington Gold Project (Project) is wholly owned by Coeur Alaska (Coeur) and located approximately 45 miles north-northwest of Juneau, Alaska. The project has received permit authorizations including, but not limited to, the issuance of a Record of Decision from the United States Forest Service (USFS) and an APDES permit from the Alaska Department of Environmental Conservation. The site is currently covered by a Multi-Sector General Permit which authorizes stormwater discharges from the construction of metal mining operations and discharges from active mining operations where discharges enter surface waters of the United States.

### **Description of Problem Identified:**

Graphitic phyllite material was initially encountered during construction of the Stage 1 Tailings Treatment Facility (TTF) and was determined to contain pyrite bearing phyllite rock susceptible to oxidation potentially resulting in Acid Rock Drainage (ARD). Graphitic phyllite excavated from the tailings dam footprint and stage 1 interim spillway was hauled to Pit 3 for temporary storage within a temporary containment cell.

Construction of the Stage 2 phase of the Tailings Treatment Facility (TTF) commenced in early July 2012 and was completed in October of 2012. The stage 2 construction consisted of increasing the height of the dam by 25 feet. As with stage 1 construction, graphitic phyllite was encountered in the stage 2 interim spillway and during excavation of the dam footprint. A temporary containment cell was constructed at the mud dump for temporary storage of this material. A geologist was utilized to identify the graphitic phyllite being excavated and this material was hauled and placed into the temporary containment cell.

During the daily inspection of the TTF on May 20, 2013, ARD seeps were visually identified at the north end of the TTF. The snow had recently melted away which allowed for the visual identification of the ARD seepage. Field pH measurements were conducted and the pH of the seepage was between 2.5 and 3.5. Water quality samples were collected and sent to a third party laboratory for analysis. The laboratory results indicated elevated metals concentrations in the samples verifying that this was ARD. Investigations indicated that graphitic phyllite from the stage 2 construction was placed into the existing stockpile at the north end of the TTF and not separated out and placed into the temporary containment cell located at the mud dump.

To remedy the ARD, the following corrective actions and proposed timeline are being implemented.

### Proposed Corrective Actions and Timeline:

Number	Action	Start Date	Completion Date
<b>1</b>	Dig test pits to identify the extent and quantity of graphitic phyllite material that is contained in the stockpile. Site geologist to classify test pits to ascertain extent of graphitic phyllite material.	5/23/13	5/25/13
<b>2</b>	Identify and locate equipment to conduct corrective actions: 1 loader, 2- 30-ton haul trucks.	5/25/13	Loader Onsite: 6/3/13; Trucks On-site: 6/10/13
<b>3</b>	Haul development rock to the TTF from the Jualin Portal for constructing the lined collection ditch	5/30/13	6/18/13
<b>4</b>	Construct a pond lined with 60-mil HDPE for storage and containment of the ARD seepage pumped from the lined collection ditch.	6/3/13	6/5/13
<b>5</b>	Construct a collection ditch lined with 60-mil HDPE and filled with development rock (diorite) at the toe of the stockpile to capture and contain the ARD seepage. The diorite will provide neutralization to the seepage as historical ABA results indicate that the diorite has a high net-neutralization potential. The ARD seepage will be captured and pumped to a lined pond. From the lined pond the seepage would be transferred to the ARD treatment plant for treatment.	6/4/13	6/18/13
<b>6</b>	Construct a temporary containment cell for temporary storage of the graphitic phyllite following excavation.	6/4/13	7/18/13
<b>7</b>	Construct an infiltration basin utilizing diorite material. The infiltration basin would be constructed as a contingency treatment for the ARD seepage to flow into from the lined collection ditch should there be times that the ARD seepage cannot be pumped and treated during the winter months due to excessive snow and ice conditions.	6/18/13	7/9/13
<b>8</b>	Pump and Transfer ARD seepage to the ARD treatment plant	6/18/13	Until such time as there is no ARD seepage
<b>9</b>	Excavate graphitic phyllite from the stockpile and place into the temporary containment cell	6/18/13	7/16/13
<b>10</b>	Haul graphitic phyllite from the temporary containment cell for final disposal by encapsulation within paste tailings as described in the approved site reclamation plan.	7/16/13	3 <sup>rd</sup> quarter of 2013

<b>11</b>	Monitor seepage from stockpile to ensure that graphitic phyllite material has been removed from the stockpile and ARD seepage no longer exists	<b>7/16/13</b>	<b>Until such time as there is no ARD seepage</b>
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