

December 31, 2005

Tom Chapple  
Director – Air Quality  
Alaska Department of Environmental Conservation  
Division of Air and Water Quality  
555 Cordova St.  
Anchorage Alaska 99501

RE: Red Dog Fugitive Dust Update No. 3 – 4<sup>th</sup> Quarter 2005

Dear Mr. Chapple:

Please find enclosed Teck Cominco Alaska's (TCAK), Red Dog Mine Fugitive Dust Quarterly Update Report as described in Section 6 of the Memorandum of Understanding (MOU) between the Alaska Department of Environmental Conservation (ADEC) and TCAK. The report covers the period of October through December 2005.

#### Communications

On October 26<sup>th</sup> a requisite biannual meeting was held between TCAK and ADEC to review the progress made under the MOU. The meeting was well attended and also included representatives from the Alaska Department of Natural Resources, the Attorney Generals Office, and NANA Corporation.

During the quarter additional communications were conducted in support of particular MOU activities and are contained within this report under the specific project sections that follow.

### **1. Studies**

#### Particle Fate Analysis

A work plan describing the methodology for investigating fugitive particulate fate in the area around the Red Dog concentrator was developed and has been attached for reference, as required by MOU Condition 1.3. Based on the methodology, samples were obtained from tundra areas around the Red Dog concentrator as well as a location 3.5 km from the concentrator. Surface and samples at depth were obtained for both areas, as well as dust from around the gyratory crusher. Dry screening has been completed on the samples. Wet screening was also completed and samples have been mounted for quantitative scanning electron microscopic (SEM) and mineral liberation analyzer (MLA) studies.

## 2. Ambient and Fugitive Monitoring

### Total Suspended Particulate Ambient Air Monitoring

<b>Table-1</b>						
<b>Red Dog Mine</b>						
<b>Quarterly TSP Lead Concentration</b>						
(R&P 1440AB TEOM Data)						
	<b>PAC TEOM Site</b>			<b>Tailings Dam TEOM Site</b>		
	Average ( $\mu\text{g}/\text{m}^3$ )	Minimum ( $\mu\text{g}/\text{m}^3$ )	Maximum ( $\mu\text{g}/\text{m}^3$ )	Average ( $\mu\text{g}/\text{m}^3$ )	Minimum ( $\mu\text{g}/\text{m}^3$ )	Maximum ( $\mu\text{g}/\text{m}^3$ )
1 <sup>st</sup> Quarter 2005	0.7	0.07	2.4	0.3	0.07	0.8
2 <sup>nd</sup> Quarter 2005	0.6	0.02	2.4	0.2	0.02	0.5
3 <sup>rd</sup> Quarter 2005	0.3	0.01	2.0	0.1	0.01	0.6

The sample collection for the comparison of the Total Suspended Particulate collection efficiency of an R&P 1440AB TEOM compared to a Wedding Hi-Vol Particulate Monitor was extended to October 21. A report detailing the comparison is currently being prepared and will be submitted in January 2006.

### Vegetation Monitoring

Review of the proposals for the vegetation causality study was completed and a vendor was selected. ADEC was provided with the preferred vendor proposal for review and comment prior to entering into a contract for the work. ADEC feedback on the proposal was provided to TCAK in November, and the recommendations will be considered when drafting the final work plan.

## 3. Engineered Controls

### Gyratory and Jaw Crusher Dump Pocket Baghouses

During the first week in October the final freight barge of the 2005 season arrived and contained the components for the gyratory and jaw crusher dump pocket baghouses. Construction is currently underway but has experienced some delays related to poor crane mechanical availability and extreme winter weather conditions. Current focus is on electrical installation. Structural, mechanical and component installation will commence following the holiday break. The present estimate for completion of the project is sometime late in the first quarter of 2006.

#### Coarse Ore Stockpile Building

Detailed engineering for the proposed coarse ore stockpile building baghouse project is nearing completion. Discussions were held with ADEC air permitting staff in Juneau to review permitting requirements and schedules.

#### Mine CSB/Truck Loading Facility Fugitive Dust Reduction Review

Procurement of the prototype baghouse testing system has been completed and the unit is anticipated to be shipped from the manufacturer in January. Upon arrival on site the unit will be installed. Following installation the testing program will begin and continue into spring 2006.

### **4. Source Apportionment and Particle Deposition Modeling**

#### Source Contribution and Modeling Plan

On November 29<sup>th</sup> ADEC provided comments on the review of the *Protocol for Evaluation of Fugitive Dust Sources of Lead and Zinc at Red Dog Mine*. The protocol was additionally reviewed by the ADNR Office of Project management and Permitting and the Office of Habitat Management and Permitting. TCAK appreciates the review and feedback on the project as it will result in a much more robust program. A document responding to the protocol evaluation concerns and comments has been attached to this update.

If you have any questions, concerns, or require any additional information regarding this report, please contact Mr. Jim Kulas at 907-426-9129 / [jim.kulas@teckcominco.com](mailto:jim.kulas@teckcominco.com) or Mr. Wayne Hall at 907-426-9259 / [wayne.hall@teckcominco.com](mailto:wayne.hall@teckcominco.com).

Sincerely,  
Teck Cominco Alaska Incorporated

John B. Knapp  
General Manager