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SUBJECT: Summary of rationale for EPA's Cobalt Water Quality PRG and Responses to BMSG's comments concerning EPA's Cobalt Water Quality PRG

PROJECT: 152238.PR.04

Introduction

This technical memorandum provides a summary of the information and methodologies used by EPA in developing the Preliminary Remediation Goal (PRG) for cobalt in surface waters at the Blackbird Mine site. Included in this technical memorandum is a summary of information that was presented in a meeting among EPA, BMSG, State of Idaho, and natural resource Trustees at Boise, Idaho on March 27, 2002. Also included in this technical memorandum is a response to comments provided by the BMSG in a March 19, 2002 review of a previous document titled *Cobalt Toxicity Reference Value Position Paper*, prepared by CH2M HILL for the EPA, August 14, 2001.

Background

The Blackbird Mine site has both cobalt and copper contamination in surface water. Cobalt federal or state water quality criteria for the protection of freshwater aquatic life are unavailable, and a toxicity reference value had to be derived for the ecological risk assessment in order to estimate risks to salmonids and their prey items. A preliminary remedial goal (PRG) was derived from the available toxicity information in order to obtain potential cleanup levels, and to provide the Feasibility Study with a goal by which to assess remediation efforts.

Three threatened species of salmonids are of concern in the Panther Creek area. These are:

- Bull Trout
- Snake River Chinook Salmon
- Snake River Basin Steelhead Trout

In addition, other salmonids such as rainbow trout and other fish species inhabit streams in the area. This area provides recreational fishing opportunities as well as habitat for ecological receptors.

Very little data exist regarding the toxicity of cobalt to aquatic life. The available data suggest that cobalt is hardness dependent, with toxicity increasing as hardness decreases. The water in