

# COVINGTON & BURLING LLP

1201 PENNSYLVANIA AVENUE NW  
WASHINGTON, DC 20004-2401  
TEL 202.662.6000  
FAX 202.662.6291  
WWW.COV.COM

BEIJING  
BRUSSELS  
LONDON  
NEW YORK  
SAN DIEGO  
SAN FRANCISCO  
SILICON VALLEY  
WASHINGTON

THEODORE L. GARRETT  
TEL 202.662.5398  
FAX 202.778.5398  
TGARRETT@COV.COM

July 7, 2011

## VIA E-MAIL AND U.S. MAIL

Lori Cora, Esq.  
Assistant Regional Counsel  
U.S. Environmental Protection Agency  
Region 10  
1200 Sixth Avenue  
Seattle, Washington 98101

Ms. Fran Allans  
Remedial Project Manager  
Idaho Operations Office  
U.S. Environmental Protection Agency  
1435 N. Orchard Street  
Boise, Idaho 83076

Re: **Blackbird Mine: EPA Modifications To SOW**

Dear Mss. Cora and Allans:

We are writing on behalf of the Blackbird Mine Site Group (BMSG) in response to Fran Allans' letters of May 16 and June 9, 2011, in response to our May 9, 2010 letter in response to EPA's modifications to the UAO SOW and SOW schedule for the design and construction of the Blackbird Creek diversion structure and settling basins.

The BMSG continues to strive for the best permanent remedial actions for the Blackbird Mine site. Although the BMSG was initially in agreement with installation of the diversion and settling basins in early 2010, we advised EPA that we wished to install the settling basins in 2010 so they would be in place for the important first year after completion of the stabilization and removal actions in Blackbird Creek. Since that time, the need for an Endangered Species Act (ESA) consultation process precluded any attempt to construct the actions in 2010. The BMSG also advised EPA that, if built, the settling basins would need to be permanent in order to address the ongoing source of iron floc. EPA's Biological Assessment (BA) shows that EPA would consider the diversion and settling basins to be temporary actions which would cause environmental impacts at significant cost and use of natural resources, and would not address the ongoing source of iron floc for the long term. In the meantime, the stabilization and removal actions in Blackbird Creek have been completed and are performing as predicted by Golder Associates. Moreover, after receiving EPA's February 2011 letter, the BMSG advised EPA that the sizing and estimated performance of the existing draft design for the

diversion dam and settling basins are significantly different than the conceptual design evaluated in the Blackbird Creek Evaluation Report (BCER).<sup>1</sup> The BMSG thus asked Golder to prepare a supplement to the BCER to include an updated evaluation.

Golder Associates has now completed the Supplemental BCER discussing alternative remedies to address migration of Blackbird Creek sediments. The Supplemental BCER has been submitted to EPA, under separate cover, and considers changed conditions since the original BCER evaluation was prepared. Based on this new evaluation, the Supplemental BCER recommends a new alternative in lieu of the remedy in the recently modified UAO SOW.

We are also submitting the attached comments on EPA's draft Explanation of Significant Differences for the Blackbird Mine ROD dated May 16, 2011, and the U.S. Fish and Wildlife Service's Biological Opinion for the Blackbird Creek Diversion and Settling Basins dated May 5, 2011.

## **I. The Supplemental BCER Warrants A Reevaluation Of EPA's Approach**

On January 12, 2011, the BMSG wrote a letter requesting EPA to defer a decision on constructing the diversion and settling basins while monitoring the effectiveness of the recently completed stabilization and removal actions in Blackbird Creek.<sup>2</sup> As explained in the letter, the risk for recontamination of Panther Creek overbank areas in the short term is already much reduced as a result of the work completed in 2009-2010, which went far beyond the previous actions in 1998 and 2004.<sup>3</sup> Moreover, after the 2003 ROD was issued, the Panther Creek Inn property was sold to the BMSG and no longer has a residential use.

Other developments since the 2003 ROD warrant a reconsideration of EPA's recent SOW Amendment. During the process leading to the Amended SOW, EPA determined that ESA issues needed to be addressed. As part of the formal ESA process, EPA prepared a Biological Assessment (BA) that recommends annual monitoring and relocation of bull trout

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<sup>1</sup> Our May 9 letter to you was written when the BMSG had only a short amount of time to review EPA's amended UAO SOW. We accordingly reserved the right to submit additional comments and information concerning the SOW modification and related documents.

<sup>2</sup> Contrary to statements in EPA's May 16 letter (p. 2, ¶1) George Lusher and Dave Jackson had two detailed discussions with Fran Allans about the BMSG's concerns prior to January 12, 2011. During the second discussion, which included EPA's consultant John Lincoln, Fran Allans asked Messrs. Lusher and Jackson to express the BMSG's concerns in writing, which resulted in our letter dated January 12, 2011.

<sup>3</sup> EPA's May 16 letter (p. 3, ¶1) mischaracterizes the intended purpose of the three existing settling basins in Blackbird Creek. The two lower Blackbird Creek settling basins were installed to collect sediments during low flow conditions during construction. The West Fork settling basin was constructed in part for removal of a large tailings depositional area that previously existed at that location and to provide some residence time for oxidation of iron from the West Fork seepage. These three settling basins were not designed, sized or portrayed to be able to capture the sediments from Blackbird Creek during high flow events, which is the purpose of EPA's 2011 UAO SOW.

(*Salvelinus confluentus*) from the settling basins and lower West Fork Blackbird Creek, along with additional mitigation measures to be incorporated into the design.

Moreover, now that the draft design of the diversion and settling basins is complete, the extent, complexity, and effectiveness of the settling basins are better understood than at the time of the BCER. As discussed in the attached report by Golder Associates, significant factors include the cost of the facilities, which increased from the BCER estimates, and the effectiveness of the settling basins which decreased from that estimated in the BCER, and the lack of significant benefit for control of sediment releases to Panther Creek relative to other alternatives.

Golder evaluated the relative contribution of arsenic due to floc and the lack of an alternative that includes treatment of floc at the source. Now that the 2009-10 stabilization actions are complete, the contribution to arsenic load from sediments has declined whereas the relative contribution of iron floc has correspondingly increased. Based on this new evaluation, the Supplemental BCER recommends a new Alternative F in lieu of the ROD remedy, namely in-stream stabilization and removal with water treatment at the West Fork to reduce the discharge of iron floc. Alternative F is preferred for the following reasons:

- It is highly effective in reducing transport of arsenic and cobalt;
- It controls contaminants in sediments with in-stream stabilization;
- It provides a solution that does not require diversion of the entire flow of Blackbird Creek into settling basins, prior to release to Panther Creek, thus avoiding the impacts to ESA listed bull trout that would be caused by Alternative C;
- It targets contaminants contained in West Fork seepage at the source rather than relying on capture in a settling basin and is more efficient at treating floc; and
- It will result in a natural-colored Blackbird Creek and eliminate the need for two large orange-colored settling basins at the confluence of Blackbird and Panther Creek.

In contrast, the evaluations in the Supplemental BCER confirm that the greatest benefit of the settling basins for controlling in-stream sediments would have occurred during the first year after completion of the in-stream stabilization and removal actions and to a lesser extent for the next few years thereafter. After this winnowing period, the primary benefit of the basins would be to capture the smaller, but continuing source of contaminants from iron oxyhydroxides (floc). However, this would require that the diversion structure and settling basins become permanent fixtures that would obstruct the natural flow path of Blackbird Creek in perpetuity and would remain highly visible engineered structures in an area of the Salmon-Challis National Forest that otherwise has only modest development. Moreover, it would not capture the iron floc at the source.

The 2011 snowmelt runoff has afforded an opportunity for evaluation of the performance of the stabilization and removal actions during a higher than normal spring runoff

event. We do not have flow measurements at high flow in Blackbird Creek because the gauging station has not yet been replaced and the high flows precluded manual measurement. However, Napias Creek, which contains a US Geological Survey gauging station recorded flows during the 2011 snowmelt that were within the 2008-2009 range of flows, and Panther Creek has inundated overbank areas to greater depths than observed in either 2008 or 2009. The stabilization structures and bendway weirs in Blackbird Creek performed exactly as predicted by Golder Associates. For most of the spring runoff period Blackbird Creek has visibly carried less sediment than Panther Creek at the confluence with Blackbird Creek. The observed amount of stream channel movement within the stabilized areas during the peak flow periods of 2011 appeared to match well with the modeled predictions. The BMSG will sample overbank areas after water levels recede as requested by EPA.

For the above reasons and those stated in the Golder report, the BMSG prefers Alternative F because of the increased relative contribution of iron floc to the arsenic load, now that the 2009-10 actions are complete, and the effectiveness of Alternative F at treating iron floc at the source.

## **II. The BMSG Reserves Its Objections To The SOW Amendment**

EPA's letter dated May 16, 2011 states that the diversion and settling basins are a significant difference from the ROD remedy but do not fundamentally alter the selected remedy. We respectfully disagree. EPA issued an Explanation of Significant Differences (ESD) document to justify the SOW's deviation from the 2003 ROD remedy. However, EPA has not provided notice to the public and an opportunity to comment on this significant change to the remedy. For the reasons stated in our May 9, 2011 letter, this is inconsistent with the National Contingency Plan (NCP).

The 2003 ROD addressed the possibility further actions might be needed if monitoring and evaluations after implementation of the ROD remedy showed that cleanup levels established in the ROD were not met. In a section of the ROD addressing "contingent actions," the ROD addressed the possibility that future storm events might result in additional mine related deposits on properties along Panther Creek by providing for: "Additional removals along Panther Creek if monitoring following storm events result in deposition of overbank deposits that exceed remediation goals." (ROD p. 12-16).

The UAO SOW amendment is inconsistent with the conclusions in the 2003 ROD in that they call for a diversion dam and sediment basins rather than additional removals along Panther Creek. This is a fundamental change in the type of remedy selected. There is also a significant difference in costs, because the estimated costs of the diversion dam and settling basins is \$4.3 million. EPA's SOW amendment is not valid because it significantly changes the scope and cost of the ROD remedy without amending the underlying ROD as required by the NCP.

Finally, the BMSG reserves its objections to EPA's draft Explanation of Significant Differences for the Blackbird Mine ROD dated May 16, 2011 and the U.S. Fish and Wildlife Service's Biological Opinion for the Blackbird Creek Diversion and Settling Basins

dated May 5, 2011. Attached are BMSG comments on those documents. The BMSG reserves the right to comment further on those documents as well as the NOAA Fisheries Biological Opinion, which has not yet been issued.

### **Conclusion**

The BMSG requests that EPA reconsider the SOW amendment in light of the new information and analyses presented in the Golder report. We would like to have further discussions with the EPA, Forest Service, and IDEQ and the downstream property owners on the subjects discussed in this letter. We are prepared to work through any differences of opinion and strive to accomplish the goals of the 2003 ROD.

Sincerely yours,



Theodore L. Garrett  
Attorney for Intalco



Bruce Smith  
Moore Smith Buxton & Turcke  
950 West Bannock Street  
Suite 520  
Boise, Idaho 83702  
Attorney for Noranda

Attachments

## **Blackbird Mine Site Group**

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P.O. Box 1645  
Salmon, ID 83467  
(208) 756-8688

July 8, 2011

Fran Allans - Remedial Project Manager  
U.S. EPA Region 10 – Idaho Operations Office  
1435 N. Orchard St.  
Boise, ID 83706

Re: Blackbird Mine Site Group (BMSG) Comments on EPA's Draft Explanation of Significant Differences for the Record of Decision for the Blackbird Mine, May 16, 2011

Dear Fran:

The following are BMSG general comments on EPA's Draft Explanation of Significant Differences for the Record of Decision for the Blackbird Mine, May 16, 2011:

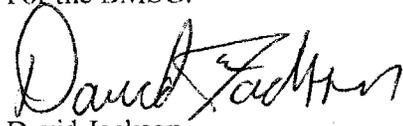
- 1. Blackbird Creek Diversion and Settling Basins.** All portions of the Draft Explanation of Significant Differences (ESD) concerning the EPA's proposed Blackbird Creek Diversion and Settling Basins should be removed. Golder Associates' Supplemental Blackbird Creek Evaluation Report (SBCER) performs a re-evaluation of the performance of the in-stream stabilization and removal actions already installed, the Blackbird Creek diversion and settling basins, and a new alternative for treatment of West Fork groundwater and seepage. The SBCER results in recommendation of treatment to remove the source of iron floc in addition to the already completed stabilization and removal actions. The draft ESD incorrectly states that the diversion and settling basin action "utilizes permanent solutions and alternative treatment technologies to the maximum extent practicable" as required by CERCLA Section 121. The diversion and settling basins are neither permanent as described in EPA's Biological Assessment (BA) nor does it incorporate treatment for the continuing source of iron floc. On the other hand, the alternative recommended in the SBCER is a permanent remedy, it utilizes treatment to the maximum extent practicable, and it has other significant advantages over the diversion and settling basins. Because treatment of West Fork groundwater was already included in the 2003 ROD in the event it was needed for achievement of the cobalt cleanup level for surface water, the BMSG does not believe an ESD or ROD amendment would be necessary for implementation of the alternative recommended in the SBCER.

2. **Additions/Changes to Cobalt Cleanup Levels.** The ESD includes new cleanup levels for soils and groundwater which are based on EPA's Provisional Peer Reviewed Toxicity Values (PPRTV) for Cobalt, dated August 25, 2008. The BMSG has previously commented that the reference dose (RfD) in the PPRTV document is unrealistically low because 1) the RfD is within the range of typical dietary exposures to cobalt and dietary exposures are not addressed in the document, 2) the RfD should not be based on thyroid dysfunction, which was incorrectly derived from questionable case studies from the 1950s, and 3) the bioavailability of cobalt in soils is expected to be lower than cobalt chloride used in the studies. Therefore, the BMSG does not agree with the cobalt cleanup levels derived for soils and groundwater. Moreover, the ESD and EPA's October 12, 2009, preliminary remediation goals memorandum do not contain the equations used to derive the cleanup levels, therefore, the BMSG was not able to check calculations for accuracy.
  
3. **Change in Recreational Cleanup Levels.** The BMSG believes EPA correctly re-evaluated the cleanup level for Panther Creek overbank areas on the opposite bank from the Panther Creek Road based on a more realistic reduced, but still extremely conservative, exposure frequency assumption. Based on the lack of observed human use of the overbank across from the Blackbird Creek road, a 14 day per year exposure frequency is still overly conservative for these areas and would also be conservative if applied to the overbank areas on the road side of Panther Creek where EPA inappropriately retained the assumed 28 day per year exposure frequency assumption. Cleanup levels continue to fail to address the numerous comments raised by the BMSG during EPA's risk assessment calculations and development of the cleanup levels in the ROD. The risk assessments and cleanup levels remain overly conservative and unreasonable given the data. The BMSG's comments included, but were not limited to 1) use of an unrealistically high bioavailability factor that fails to use site-specific data, 2) inappropriate use of a chronic reference dose for calculating a subchronic RfD, 3) unrealistic application of recreational and residential use assumptions to individual overbank areas that represent a small portion of an exposure area.

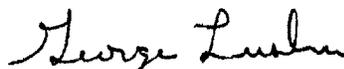
The preceding comments are not all-inclusive of BMSG comments and concerns regarding the draft ESD. The BMSG reserves its rights for further comment.

Sincerely yours,

For the BMSG:



David Jackson  
Project Coordinator



George Lusher  
Project Coordinator

cc: J. Lincoln, CH2M Hill  
E. Modroo, IDEQ  
R. Bjorklund, USFS  
T. Garrett, C&B

D. Hart, NMI  
D. Cline, RT HSE  
B. Smith, MSB&T

## **Blackbird Mine Site Group**

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P.O. Box 1645  
Salmon, ID 83467  
(208) 756-8688

July 8, 2011

Fran Allans - Remedial Project Manager  
U.S. EPA Region 10 – Idaho Operations Office  
1435 N. Orchard St.  
Boise, ID 83706

Re: Blackbird Mine Site Group (BMSG) Comments on United States Fish & Wildlife Service (USFWS) Biological Opinion for the Blackbird Creek Diversion and Settling Basins at the Blackbird Mine Site, dated May 5, 2011

Dear Fran:

The following are BMSG comments on the USFWS Biological Opinion (BO) for the Blackbird Creek Diversion and Settling Basins at the Blackbird Mine Site:

1. Page 1, Second Paragraph – This paragraph states that the BO is based on EPA’s Biological Assessment (BA). The BMSG submitted substantive comments on EPA’s draft and final BAs and EPA’s March 15, 2011, Amendment to the Final BA. Please refer to our comment letters dated February 7 and April 11, 2011. Most of our substantive comments on the BA and Amendment to the BA remain unaddressed by EPA. As a result the BA continues to contain inaccurate statements and evaluations that make it a flawed resource for a BO.
2. Page 7, Second Paragraph - Based on the discussions in the BA, this paragraph states that construction timing in Panther Creek would adhere, for the most part, to a preferred work window of the 3<sup>rd</sup> week of July to 2<sup>nd</sup> week of August. No actual construction schedule exists for the diversion and settling basins. However, because the berms of the settling basins as currently designed require construction to occur within the Panther Creek, it is very unlikely, if not impossible, that in-stream work could be limited to a four week work window.
3. Page 9, Third Paragraph – This paragraph and later sections of the BO discuss the stream habitat improvements proposed in the BA for the short reach of West Fork Blackbird Creek located between the tailings impoundment spillway and main stem Blackbird Creek. This is a short, steep section of stream that must also function as an energy dissipation reach and to protect the toe of the spillway. It offers limited potential for stream habitat improvements, and such improvements have not been designed to date. Statements in this paragraph such as “preclude any fish from entering the newly constructed diversion and settling basins” and “it is unlikely fish will pass into Blackbird

Creek” appear to overstate the likely performance of the proposed habitat improvements. In particular, the magnitude and velocities of spring snowmelt runoff occurring in West Fork Blackbird Creek are likely to carry fish through this reach into Blackbird Creek. Currently, such fish would pass directly into Panther Creek, but this direct passage would be precluded by the diversion and settling basins.

4. Page 27, Last Paragraph – This paragraph, which continues onto page 28, assumes that the only regular maintenance activity for the diversion structure or settling basins would be a 5-minute operation to exercise the low flow bypass outlet gate for the diversion structure. This is incorrect. For example, the settling basins would require regular maintenance to remove sediments that accumulate in the basins. The BO indicates that the Services must be contacted regarding any maintenance activity other than the low flow bypass gate maintenance to determine how to proceed and if reinitiation of consultation is necessary. As the BMSG commented on the BA, all anticipated maintenance activities should be considered in the current consultation process prior to a decision by EPA to proceed with construction.
5. Page 34, First Paragraph – The last sentence in this paragraph states: “If more than 39 bull trout are salvaged annually from the step pool habitat, or if 1 bull trout is salvaged from the settling basins, this would trigger reinitiation and the need to examine an amendment to the effects analysis and/or take statement.” The assumption that “the Service does not anticipate fish moving into Blackbird Creek from the West Fork Blackbird Creek” is very unlikely to be correct. Low numbers of bull trout have been captured within Blackbird Creek during annual monitoring performed by the BMSG, and it is not known if those fish entered Blackbird Creek from West Fork Blackbird or from Panther Creek. It would be more realistic to assume that at least some bull trout would enter Blackbird Creek and would subsequently enter the settling basins via the diversion pipeline. Similarly, the assumption that less than 39 bull trout, the number collected below the West Fork spillway in 2010, will be collected annually leaves no margin for the potential that more fish may be found in the reach in future years. Such minimal assumptions almost guarantee that reinitiation of the consultation process would be required immediately if the diversion and settling basins were built.

The preceding comments are not all-inclusive of BMSG comments and concerns regarding the USFWS BA and the EPA BA on which it is based. The BMSG reserves its rights for further comment.

Sincerely yours,

For the BMSG:



David Jackson  
Project Coordinator



George Lusher  
Project Coordinator

cc: J. Lincoln, CH2M Hill  
E. Modroo, IDEQ  
R. Bjorklund, USFS  
K. Murphy, NOAA  
B. Smith, MSB&T

D. Hart, NMI  
D. Cline, RT HSE  
S. Fisher, FWS  
T. Garrett, C&B