OBJECTORS NAME AND ADDRESS:

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PROJECT INFORMATION:

Project Name:	Montanore Project
National Forest, Ranger District:	Kootenai National Forest, Libby Ranger District
Responsible Official:	Forest Supervisor Christopher Savage

OBJECTION DETAILED DESCRIPTION

Revett Mining Company (RVM) has reviewed the Final Environmental Impact Statement (FEIS) for the Montanore Project. That portion of the Montanore FEIS cumulative effects analysis (see Section 3.10.4.5.2 Table 103) that discusses the Rock Creek groundwater model results in combination with the Montanore Geomatrix model results does not appear to be technically correct. This Objection and associated proposed remedy are specific to the those sections of the cumulative effects analysis presented in the FEIS related to combining results from the Geomatrix and Hydrometrics groundwater models. It should be noted that although RVM provided comments on the Geomatrix groundwater model during the Draft Supplemental Environmental Impact Statement (DSEIS) comment period, this is the first look that RVM has had at the approach taken by the Forest Service (FS) to present information on cumulative effects by combining results from the Hydrometrics and Geomatrix groundwater models as combined model results were not included in the Montanore DSEIS.

I. The Hydrometrics Model Should not be Used to Quantify Upper Reach Stream Flows

There are explicit qualifications to the Hydrometrics model results that are presented in Appendix B that state that the predicted quantitative flow values at specific locations on streams, particularly higher up in the drainages, have a high degree of uncertainty and should not be used to quantify predicted changes in base flow (see Appendix B Notes). In spite of these agency-accepted model limitations and recommendations against such use, specific Rock Creek model results from Appendix B were used in the Montanore FEIS to quantify cumulative effects at specific upper reach stream locations. RVM believes this to be a technically unsupportable use of the Hydrometrics model results.

Furthermore, the approach used in the Montanore FEIS to quantify cumulative effects by adding the predicted changes from the Montanore and Rock Creek models is not technically supportable at specific stream reaches where the simulated pre-mining baseflow conditions vary substantially between the two models, as is the case with the EFBR-500 location. Although this conceptual approach for assessing cumulative effects was discussed in technical meetings during the development of the Rock Creek model, a meaningful comparison of flow data can only be made if the models have a similar baseflow condition as a starting point. While the models produce similar baseflow results in the lower drainage site Rock Creek at mouth (RC-2000), a quantitative comparison of the change in flow rates cannot be

made at EFBR-500 due to the large disparity in predicted pre-mining baseflow conditions between the two models. Simulated baseflow in the Montanore model is roughly 3 times that in the Hydrometrics model at this location (4.35 cfs (Montanore FEIS Table 103) versus 1.4 cfs (Hydrometrics, 2014, Appendix B Table B-2-1)). Using this methodology, predicted effects would vary substantially depending on which model is used to represent pre-mining baseflow conditions. The only way to derive a meaningful analysis utilizing flow values from each model is to compare sites that have similar baseflow conditions. This is currently only the case for the stream locations in the lower basins. Predictions of changes in flow at EFBR-500 using Hydrometrics model data (i.e. "RCR Model Results") should therefore be completely omitted from the Montanore FEIS Table 103.

II. Incorrect Values and Reported Data Origins in Table 103

a. Some Numeric Values Reported in Table 103 under the Heading "*Based on RCR's Model Results"* are Incorrect.

Although Revett does not agree with the use of the Hydrometrics model results to quantify base flow and associated effects (as detailed above) at specific stream locations, the Montanore FEIS did utilize values from the Hydrometrics model to quantify potential cumulative effects from both projects that do not match the data presented in the Hydrometrics model. The East Fork Bull River at the CMW Boundary (EFBR-500) values attributable to the Hydrometrics model in Table 103 of the Montanore FEIS appear to be incorrect. The baseflow values cited for the mouth of Rock Creek (RC-2000) and East Fork Bull River at the mouth are consistent with the Rock Creek model simulations (Hydrometrics, 2014 Appendix B Table B-2-1, variable K fault 10^{-6} simulation); however, the Hydrometrics model baseflow value for the East Fork of Bull River (CMW) (presumably EFBR-500 from Table 103) does not match any reported value in Appendix B Table B-2.1 from the Hydrometrics model report. The Hydrometrics model simulations reported a 1.4 cfs pre-mining baseflow at the EFBR-500 location compared to the 1.9 cfs reported in Table 103. The value reported in Table 103 as the "*Predicted Change in Baseflow*" at EFBR-500 also appears to be incorrectly calculated. The simulated change in stream flow attributable to the Rock Creek project is not directly shown in Table 103, but can be determined by subtracting the change reported for this location in Montanore FEIS Table 100 (0.40 cfs) from the cumulative total (0.9 cfs) shown in Table 103. Based on this, 0.5 cfs would need to be attributable to the Rock Creek project. Hydrometrics' model results, however, predict a range of potential impacts from a minimum of **no** potential impact (0.0 cfs change in flow) to a maximum potential impact of only 0.1 cfs change in flow at the site referred to in the Montanore EIS of EFBR-500 (Hydrometrics, 2014, Appendix B Table B-2.1). Hydrometrics ran numerous simulations under a range of conditions and none of the simulations produced a 0.5 cfs reduction in flow on East Fork of Bull River (CMW). The calculated cumulative effects reported in Table 103 under the "*Predicted Change in Baseflow (cfs)*" in the FEIS for this location are therefore inconsistent with Hydrometrics' model results.

b. The Column Titled "*Model Predicted Baseflow (cfs)"* under the Heading "*Based on RCR's Model Results"* does not Accurately Describe Data from the Hydrometrics Model

Table 103 shows values of 6.7, 1.0, and 9.6 cfs under the section and column titles referenced above. Based on the labeling of this information ("Model Predicted Baseflow (cfs)"), one would conclude that the Hydrometrics model produced a numeric value for baseflow considering cumulative effects from

both the Montanore and Rock Creek projects. This cannot be the case as the Hydrometrics model only evaluated impacts from the Rock Creek project. Presumably, the values reported here were derived from subtracting the sum of 1) a Hydrometrics model predicted change in baseflow attributable to the Rock Creek project only and 2) the Geomatrix model predicted change in baseflow attributable to the Montanore project only from the Hydrometrics model predicted pre-mining baseflow. The resulting values would not be a direct model predicted baseflow but rather values derived from subtracting the model derived change in baseflow attributable to each project from the model predicted pre-mining baseflow. Table 103 and associated footnotes should be modified to clarify the origin (i.e. model predicted or calculated) of the reported values.

Respectfully submitted,

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