



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10
IDAHO OPERATIONS OFFICE
1435 N. Orchard St.
Boise, Idaho 83706

January 24, 2011

Mr. Mike McCrum
Red Devil Project Manager
Bureau of Land Management
Alaska State Office
222 West Seventh Avenue, #13
Anchorage, Alaska 99513-7504

Re: Comments on the Draft 2010 Limited Sampling Event Report, Remedial Investigation/Feasibility Study, Red Devil Mine, Alaska

Dear Mr. McCrum:

The U.S. Environmental Protection Agency (EPA) received the draft Limited Sampling Event Report for the Remedial Investigation/Feasibility Study at the Red Devil Mine on December 10, 2010. EPA's comments on this document are enclosed. These comments have been submitted previously via email on January 21. This represents a formal submittal of these comments for the administrative record.

If there are any concerns regarding these comments, you may contact me at 208/378-5760.

Sincerely,

A handwritten signature in black ink that reads "R. Matthew Wilkening".

R. Matthew Wilkening
Red Devil Project Manager

Enclosure

cc: Anne Marie Palmieri, ADEC-Haines
William Richards, E&E-Seattle
Dennis Faulk, EPA-Hanford Office

EPA's Comments on

The Draft 2010 Limited Sampling Event Report, Red Devil Mine

General Comments:

1. The upcoming Remedial Investigation/Feasibility Study Workplan should include some discussion about early actions at the Red Devil Mine. Analytical results from 9 out of 19 samples fail TCLP for arsenic. In addition, there are numerous locations where concentrations of mercury, arsenic and antimony are well above EPA soil screening criteria. It is recommended that early actions be considered for areas, such as Monofill #2 and the Main Processing Area. Those areas where the samples fail TCLP will require treatment and disposal at an offsite area suitable for RCRA characteristic waste.
2. In Section 4.2 Correlation of Laboratory and XRF Field Screening Data the correlation coefficients between the XRF and laboratory data for arsenic, antimony and mercury do not solely support the case for defining the XRF data as "definitive". The y-intercept and slope (and their associated errors) for each of the regression lines must also be analyzed in order to support this assertion. It would also be useful to have the line of equality (i.e., $y=x$) presented in the scatter plots along with the regression lines for comparative purposes. This allows for a graphical determination of potential bias in the data to be displayed along with a comparison of how closely the data derived regression line fits against the ideal regression line. The data for those charts should also be presented in a stand alone table as well. Discussion on the definitive nature of the XRF data should include a statement on the limitations of the instrument's sensitivity as compared to various cleanup or assessment criteria. Finally, a review of the mercury chart readily indicates a significant low bias in the XRF data. While the strong correlation would suggest that this instrument is very useful for measuring mercury in the soils, the data also argues for the use of well characterized site specific soils for instrument calibration (see EPA method 6200) as a means of correcting against this bias. Other mercury analyses in this report suggest that the mercury contained in these soils is sufficiently stable for the manufacture of air-dried, site-specific soil calibration standards.
3. The data validation reports in Appendix A were very thorough and complete. They appeared to meet the definition of a Stage 3 manual validation (S3VM) in accordance with EPA's recent guidance on the labeling of externally validated data for Superfund (EPA-540-R-08-005). However, in each of the validation reports (Section 11), there was a reference to Table 2-6 of the QAPP and some discussion on meeting the QAPP requirements for definitive data. This reviewer could not determine what part of the QAPP this was referring to nor locate a Table 2-6 in the QAPP. In the response please provide some specifics or directions to locate these tables and sections of the QAPP.
4. The tables that list analytical results include a column(s) that list ADEC cleanup values. It is recommended that EPA screening values, where they exist, be included as well, for example include soil screening values, MCLs, and ambient surface water quality criteria as appropriate.

Specific Comments:

1. P. 1-2, Section 1.3, Bullets 1 & 2. These bullets discuss how comments on this report will be incorporated. They indicate that this report will not be revised. The Agencies need to discuss BLM's proposal to use a document that will not be finalized as a feeder document to the RI/FS Workplan.
2. P. 2-3, Section 2.1.4, 2nd parag. The discussion in this paragraph indicates that the boundary of the transect was shifted from the original position depending on the results of the XRF screening. If the XRF screening for mercury is biased low, as discussed in the General Comments, then determination of the lateral extent of the tailings may also be biased toward a less inclusive boundary. Is there any data or maps that would indicate the previous boundary of contamination? Such a diagram may be useful in adjusting the extent of contamination to allow for the apparent low bias for mercury of the XRF.
3. P. 3-3 - The data validation qualifier definitions for identifying positive and negative bias of estimated data should be reviewed and compared to EPA guidance. For example, in the report, it states that "J+" is "Estimated positive result, possible negative bias" whereas the EPA Inorganic Functional Guidelines defines the "J+" as "The result is an estimated quantity, but the result may be biased high". Also, the data validation reports did not add these "+" or "-" modifiers to the "J" qualifiers where these modifiers were warranted. The Agencies should have a call to discuss whether these modifications are necessary based on the intended use of the data.
4. P. 4-9, Section 4.3.1, 3rd full parag. It is not clear what BLM's/E&E's intent is regarding the mercury speciation analysis. There remains a percentage of mercury that is readily available for methylation. Furthermore mercury in streams will be subject to methylation. Thus, it is important that the upcoming workplan address the uptake of mercury in the food chain via sampling of the biota in the streams at Red Devil Mine.

Typographic Errors:

In the List of Figures a couple of typographical errors were noted. The listing for Figure 4-2 also has "Figure 4-1" in the title. In Figure 4-5, change "Antimonty" to "Antimony". The listing and titles for Figures 4-13, 4-14 and 4-15 are missing. None of pages that contain each of the figures were paginated. Also, Figure 4-14b was duplicated and inserted on pages 88 and 89 of the pdf file version.