



United States
Department of
Agriculture

Forest
Service

Mt. Hood National Forest

16400 Champion Way
Sandy, OR 97055-7248
503-668-1700
FAX# 503-668-1641

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Date: August 23, 2006

Mr. Steve Fortuna
Site Assessment Specialist
Department of Environmental Quality
NW Region Portland Office
2020 Sw 4th Avenue, Suite 400
Portland, OR 97201-4987

RE: **Ames-Bancroft Mine; Nisbet Mine; Kiggins Mine**
Mt. Hood National Forest
Estacada, Oregon
Clackamas County
ECSI #3810, #3811, and #3812

Dear Mr. Fortuna:

The following is in response to your letter of July 24, 2006, and also contains some corrections to our April 13, 2006, response to your earlier letter of April 3, 2006.

As we noted in our April 13, 2006 letter, the Ames-Bancroft Mine is on a patented mining claim. The patent was awarded in 1958. At the time of our April 13, 2006, letter we believed the patented claim was subject to the Mt. Hood Mining Law of 1934 which reserves some of the surface rights to the United States. The Forest Service investigated this matter further. Since the mining claim was filed before the passage of the Mt. Hood Mining Law, this patented mining claim does not have any surface rights reserved. In other words, this mining claim is private property and no longer under any jurisdiction of the Forest Service. The Mt. Hood National Forest is correcting its land status records. Clackamas County land status records were also in error and are also being corrected.

Your specific comments regarding the three mine sites and our responses are listed below.

Additional investigation is needed to determine if contamination is present at the Ames-Bancroft mining site.

Since this is a patented claim, the Forest Service does not have authority to perform sampling or a removal action on this site.

Additional testing is needed to define the full vertical and horizontal extent of metals contamination in mining wastes, soils, and sediment associated with the Kiggins and Nisbet mine sites.

The Site Inspection (SI) conducted by Cascade Earth Sciences in 2003 was sufficient to characterize the contaminants at both sites. Monitoring will occur during the removal action



at the Kiggins Mine. If additional contaminants are discovered, they will be addressed during the removal action. A removal action at the Nisbet Mine is not warranted based upon the risk assessment conducted during the Engineering Evaluation/Cost Analysis (EE/CA).

Drilling equipment and/or an excavator could not be transported to either Site without significant costs associated with the installation of a bridge at the Kiggins Mine and road construction to the Nisbet Mine. It should be pointed out that the existing road to the Nisbet Mine has been covered by landslide deposits and that any road construction could trigger additional landslides since this area is very unstable. Furthermore, it is Cascade Earth Science's and the Forest Service's belief that the concentrations of metals in the waste rock piles at the Site is relatively constant throughout the entire depth of the piles. Also, the material did not fail either the TCLP or the SPLP analyses and therefore, the possibility of any leaching into native ground beneath the waste rock piles is not a factor.

Further testing is needed to determine whether fish and benthic macroinvertebrates in the Clackamas River Oak Grove Fork have been contaminated.

As demonstrated in the SI conducted by Cascade Earth Sciences in 2003, a thorough ecological survey was completed, which included fish and benthic macroinvertebrates. As outlined in the SI, the ecological survey included an analysis of the benthic macroinvertebrate population abundance, diversity, and metals tolerance at seven aquatic stations upstream, adjacent to, and downstream of the mines. The benthic macroinvertebrate survey results suggest that there is little or no evidence of impacts to surface water quality downstream of the mines. Regarding fish, only a couple of small trout were observed in the vicinity of the Nisbet Mine. Fish are not expected to inhabit this reach of the Oak Grove Fork because of the large waterfall downstream of the Nisbet Mine. Any fish that are present in this reach most likely washed over the Lake Harriet Dam during high flow events.

As outlined in the SI, concentrations of several metals (i.e., arsenic) in surface water and pore water samples collected upstream of the mines was higher than the downstream samples. In addition, metal concentrations in upstream sediment samples were also elevated compared to several downstream samples. It should be pointed out that the flow measured at station OGF-02, which is directly below the dam, was 5.9 cfs while the flow measured at station OGF-07 was 36.3 cfs. Sam Creek was the only stream observed in this section. However, Sam Creek does not carry a significant flow (10 gpm) to account for an increase in the flow as measured at station OGF-07 by a factor of 6 fold. Therefore, there are other sources of water that are more than likely contributing to some of the elevated metals at station OGF-06 and -07 other than from the mines. Considering the mineralization of the area, this scenario is more than likely occurring. It is outside the scope of this project to determine underground water sources outside the areas of the mines. Both mines were dry and therefore, the mines would not be contributing to the flow of OGF or at least nothing of significance.

The Oak Grove Fork cuts through the Fall Vein, a natural occurrence of cinnabar. The area is highly mineralized and as such, performing any tissue sampling and testing would not prove whether or not the fish were contaminated by these natural occurrences or from the mines.

While historically waste rock from these operations was likely deposited into the river, during the site inspection, no significant evidence was encountered to suggest that this material was still present within this reach of the river. Therefore, no tissue sampling will be conducted during the removal action.

In addition to the previously established monitoring stations, two water monitoring stations will be installed further downstream of the mines and will be sampled during post removal action monitoring. These stations will be monitored for a period of 3 years. Results will be analyzed and should additional action be required, a determination would be made at that time as to appropriate action.

At least two of the background soil samples for the 2003 Site Inspection appear to have been collected on other mining or prospect sites, and could have been contaminated with mining wastes. Additional testing is needed to define true background soil conditions.

Background samples were not collected from mining sites or prospects; samples were collected from undisturbed native background locations below organic horizons at a minimal depth of 12-inches. However, more samples would be needed to determine the 90% UCL. Regardless, the background sampling results were not used to establish cleanup levels of metals. The average of background concentrations was used in the risk assessment to determine the metals of interest. Cascade Earth Science and the Forest Service consider this to be a conservative approach, since the 90% UCL would be higher than the average concentration. Therefore, additional background sampling will not be conducted during the removal action.

Further studies are needed to better-define whether sensitive plant or animal habitat is present at, or immediately downgradient of, the mining sites, and to determine whether terrestrial species have been affected by site contaminants.

As presented in the SI, an ecological survey was completed to assess the sensitive species at and around the mines. Specifically, plants, birds, terrestrial macroinvertebrates, and mammals were inventoried and assessed. While plants and invertebrates within the waste piles may be at risk, the populations are unlikely to be significantly impacted within the vicinity of the site because of the small dispersed exposure areas. Therefore, no additional studies will be conducted.

Contaminated mining wastes, soil, and sediments need to be cleaned up.

The Forest Service plans to conduct a removal action at the Kiggins Mine. Based on the risk assessment, only a hotspot cleanup action is warranted. This would remove 25 cubic yards of highly elevated mercury in waste rock from the site.

The Forest Service has considered the suggestion to enter the Voluntary Cleanup Program but we will proceed under our CERCLA authorities. While we will not enter the voluntary program the Forest Service will keep DEQ informed regarding actions at the Kiggins Mine and related

monitoring. Please call Dennis Boles at 541-923-0393 if you would like to discuss these sites and issues further.

Sincerely,

/s/ Christine Arredondo for
GARY L. LARSEN
Forest Supervisor

cc: Dennis J Boles
Thomas G Deroo
Robert W Fujimoto
Andrei Rykoff
Dick Sawaya