



The State
of Wyoming



Department of Environmental Quality

Dave Freudenthal, Governor

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E-Mail followed by U.S. Mail

March 22, 2004

Mr. Gary Janosko
Branch Chief
U.S. Nuclear Regulatory Commission
Document Control Desk
Mailstop T8 A33
11545 Rockville Pike,
Rockville, MD 20852-2738

Re: Spring Creek Stream Assessment, Request for Additional Information
Pathfinder Mines, Alternate Concentration Limits Application (ACL)
Shirley Basin Site, Wyoming
NRC Docket No. 40-6622, License No. SUA-442 (TAC No. L51931)

Dear Mr. Janosko:

The Water Quality Division (WQD) has reviewed the Spring Creek Stream Assessment report dated January 30, 2004. We received a copy of this report on February 9, 2004 from Pathfinder Mines Corp (PMC) at your request. The NRC asked that we provide comments on this stream assessment report. The attached GPC Review provides our comments. We are disappointed in the fact that the field work was completed prior to the development of the work plan and the receipt of our comments. It seems to be a waste of our time and resources to review and comment on work plans when there is no intent to actually follow or address our comments. It makes it difficult to believe that a company is actually interested in our views on a site cleanup and is working in good faith when actions such as this are performed.

Because our comments were not addressed in the assessment field work, and the work was performed without regard to our standard operating procedures referenced in our comments, we are unable to concur with the report's conclusion that the streams in the mine area are unaffected by the mining operations. We need to see data collected as we specified in our comments to make any assessment of impacts to the streams.

NMSS01

We would like to ask for a copy of the November 2003 PMC letter that contained the responses to the other items that the NRC asked for in your September 15, 2003 Request for Additional Information. Please send that copy to Mr. Mark Thiesse, WDEQ/WQD, 215 Lincoln Street, Lander, WY 82520.

Thank you for the opportunity to review and comment on PMC's stream assessment report. We also will provide comments on the other items in the RAI as soon as we receive a copy of the November 2003 letter from PMC. Please contact me at the above address or at 307-332-3144 if you have any questions about our comments.

Sincerely,



Mark Thiesse
GPC West District Supervisor
Water Quality Division

attach: GPC Review

cc: Mr. Tom Hardgrove, PMC, P.O. Box 730, Mills, WY 82644 (w/ atch)
Ms. Roberta Hoy, LQD, Cheyenne (w/atth)
Mr. Kevin Frederick, WQD, Cheyenne (w/atth)
Mr. Tavis Eddy, WQD, Lander (w/atth)

GROUNDWATER POLLUTION CONTROL PROGRAM
REVIEW COMMENTS: REPORTS/PROPOSALS/PLANS

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY
WATER QUALITY DIVISION
250 Lincoln Street, Lander, Wyoming 82520
307/332-3144

SITE NAME: Pathfinder Mines, Shirley Basin Facility

SITE STATUS: ACL Application to the NRC

APPLICANT: Mr. Tom W. Hardgrove
Manager, Reclamation Operations
Pathfinder Mines Corporation
P.O. Box 730
Mills, WY 82644

ENGINEER: NA

WATER QUALITY DIVISION REFERENCE (PERMIT) NUMBER: NA

EXISTING NEW AS BUILT

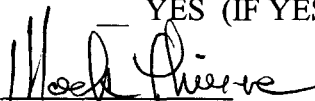
TITLE: Pathfinder Mines, Alternate Concentration Limits Application (ACL),
Assessment of Spring Creek Impacts and Evaluation of Alluvium
Shirley Basin, Wyoming, NRC Docket No. 40-6622, License No. SUA-
442 (TAC No. L51931)

PROPOSAL PLANS REPORT

DATE ON PROPOSAL/PLANS/REPORT: January 30, 2004

IS THIS PROPOSAL SUBMITTED PURSUANT TO 'CONDITIONS' TO ANY WQD
PERMIT?

NO YES (IF YES, PERMIT #-----)

REVIEWING OFFICIAL: 
Mark Thiesse, PG

DATE OF LAST REVIEW: October 10, 2003

DATE OF THIS REVIEW: March 22, 2004

ACTION: Comments provided as follows.

The referenced report was submitted to the NRC in response to a Request for Additional Information (RAI) by the NRC dated September 15, 2003. Pathfinder Mines Corporation (PMC) submitted a work plan to the NRC on September 26, 2003 to address Item #1 of the RAI, concerning the assessment of ecological impacts to the surface water bodies in the area of the mine. At the NRC's request, the Wyoming Department of Environmental Quality (WDEQ) submitted comments on this work plan to the NRC (copy to PMC) on October 10, 2003. PMC submitted the Assessment report to the NRC on January 30, 2004. The NRC asked PMC to send a copy of the Assessment Report to the WDEQ for review and comment. Our copy was received on February 13, 2004. The Report was divided into three sections. The first section provided a summary of the stream assessment work, the sediment sampling data and a summary of the aquifer testing. The second part of the report is the stream assessment report provided by Intermountain Resources. The last part is an evaluation of the near surface aquifer at the site.

The following are our comments on the stream assessment report.

1. On page 2 of the stream assessment report, it states that "Samples were collected from sites SP-1... and MB-2 on September 25 of 2003." Based on this statement it appears that the field work was performed *prior* to the development and submittal of the work plan. The WDEQ received a fax version of the work plan (dated September 26, 2003) on October 1, 2003. We returned our comments on the work plan to the NRC on October 10, 2003. Because the field work was performed prior to receiving our comments, several items that we believed important were not performed, or were performed differently than what we asked. It is unfortunate that Pathfinder would waste our time reviewing a work plan for field work that had already been performed. This sort of action seems to reinforce the mistrust and skepticism the Agencies have with the Licensee.

2. Because the work was completed prior to receiving our comments, some of the work performed did not follow our established standard operating procedures and protocols for stream sampling. Because these protocols were not followed, it is difficult to compare the data collected with streams located in similar environments. This is a common method for assessing a streams health. There are two main criteria that were not performed during this field work. The WDEQ protocols require a *quantitative* study for the biotic assessment, not a qualitative study as was performed. Just the presence of a specific macroinvertebrate does not provide an indication of a streams health. It makes a large difference if only one specimen is found versus 100 of the same species. The type of specific taxa that dominate a sample, whether a sensitive or a tolerant species, provides a better understanding of the communities health and vigor. Additionally, because quantitative data was not collected, we can not compare this data set with other data sets collected at other similar streams to provide an indication of the streams health.

The other main criteria that we asked for was a description of the sampling site bottom substrate in the riffle environment. This is an important factor in influencing macroinvertebrate colonization and community structure. For instance, sandy bottoms do not support the diversity and abundance as a firm, stable bottom consisting of cobbles and gravel. This is an easily performed evaluation and provides great benefit in evaluating the macroinvertebrate community.

3. The completed field work used dip nets for sampling riffles instead of the WQD protocol which requires the use of Surber samplers placed in the riffles. Once again by collecting data differently than the WDEQ, we have no way to compare data sets for stream evaluation.

4. The Spring Creek assessment also included sediment sampling for radionuclide and selenium analyses at the same sites as were used for the biological assessment. The analytical results provided some surprising data from the up gradient and down gradient, un-impacted sites. Locations SP-1 and FC-1, selected to be clean up gradient sites, are located relatively close to the mine site and may have been affected by wind blown tailings. Was this possibility considered? We would have liked to see these two sites located further up stream from the mine site, to reduce any potential for mine related contamination. The relatively high detection of uranium in the up gradient location MB-1 is very peculiar. We would like to see confirmation sampling on some of these sites with curious results..

The following comments address the Spring Creek Alluvium Study. It appears from the report that an aquifer test was performed along the area of the "Spring Creek Diversion", but very little of the work that was described in Section B of the September 26, 2003 work plan was performed. We think that PMC should go back out and perform the alluvial assessment as described in the work plan.

5. In our October 10, 2003 review of the work plan, we asked that the samples for the alluvium evaluation be consistent with the sample suite that is proposed in the ACL Application for surface and groundwater monitoring. The work plan discussed (Section B, 2, page 2) testing for radionuclides and chloride, sulfate, and total dissolved solids (TDS). No alluvium analytical results were provided in the report. It does not appear that this part of the Work Plan was followed.

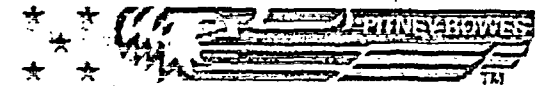
6. The aquifer testing seems to indicate there is little if any "parallel" groundwater flow adjacent to the diversion reach of Spring Creek. This would indicate that any parallel flow adjacent to Spring Creek upstream of the diversion would be restricted or possibly be discharged into the creek itself. We have a couple of questions on the aquifer test/alluvium investigation part of the report.

a. We do wonder if the area where Spring Creek was originally located, the historical stream channel, would act as a preferential pathway for groundwater contaminant migration. Has this possibility ever been investigated or considered?

b. We also wonder why only the diversion area was researched. It seems that contamination will exist along all of the Spring Creek alluvium, not just in the diversion area. We believe that the field work needs to be completed as discussed in the September 2003 work plan.

End of Review

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