

November 22, 2005

Mr. Lawrence J. Lynch
Mine Reclamation Unit
Bureau of Solid and Hazardous Waste Management
101 S. Webster Street
P. O. Box 792
Madison, WI 53707

Dear Mr. Lynch:

RE: Flambeau Industrial Outlot Action Plan

This letter is being submitted on behalf of Flambeau Mining Company (Flambeau) and provides a work plan to address the concern related to the surface water run-off at the Outlot area adjacent to the reclaimed Flambeau Mine property.

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Monitoring of surface water at the site since the completion of the reclamation project has indicated that the Industrial Outlot biofilter is working well in lowering copper levels of surface water runoff flowing from the Outlot Area. The biofilter typically removes 95% of the copper when inlet and outlot surface water samples are compared. During 2003 and 2004 the former rail spur was reclaimed in an effort to reduce the concentration of copper in surface water runoff. Flambeau wants to reduce further sources of copper from the outlot area to the biofilter.

This work plan addresses additional measures that will be implemented in the Industrial Outlot Area such that copper levels in runoff to the biofilter will be further reduced. This work plan is an action plan that will involve a combination of grading, removal of surficial materials and replacement of the collection ditch.

Introduction

As part of an ongoing review of site conditions at the Outlot Area, surface soil samples were collected on August 9, 2005 to determine copper concentrations. The sample locations are shown on the attached Figure 1. The concentrations of copper in the soil samples varied from 23 mg/kg to 1500 mg/kg. It is likely that the copper levels in these surficial soils are contributing to the copper levels in the surface water runoff to the biofilter.

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Work Plan

The proposed approach to reducing the copper levels in surface water runoff involves a combination of removal of surficial material and separation of sub-grade and new surficial materials of riprap and limestone gravel. The buffer zone of crushed ¾ inch limestone is planned for the north ditch that drains into the biofilter pond. Each of these techniques is described below. These techniques will be applied to selective areas of the gravel surface of the Outlot Area.

The gravel surface areas designated for action have been selected based on the soil sample test results for copper concentration. The area around sample locations with copper concentrations greater than 700 mg/kg will be excavated. A 50 foot by 50 foot area will be excavated to a minimum of 4 inches below the existing surface. The excavated soil will be disposed of off site at a licensed solid waste disposal landfill as a special waste. A geotextile will be placed on the bottom of the excavation then covered with a minimum of 4 inches of ¾ inch crushed limestone aggregate.

A total of five areas along with the ditch will be excavated. These five areas are centered on the following soils sample locations:

Table 1
Selected Soil Removal Locations

Sample Number	Copper	Depth below
	Concentration	the surface of
	mg/kg	the sample
SS-3	910	0 to 4 inches
SS-7	820	0 to 4 inches
SS-12	1500	0 to 4 inches
SS-15	1300	0 to 4 inches
SS-17	700	0 to 4 inches

The drainage ditch between the Outlot buildings area and the reclaimed west rail spur area will be excavated and lined with the geotextile and covered with ¾ inch limestone aggregate (gravel). The entire run of the ditch from the west end of the Outlot Area near the water storage tank to the biofilter pond will be treated with this action

It is estimated that approximately 155 C.Y of material will be removed from the five locations in the gravel portion of the Outlot Area. Approximately 210 C.Y. of material will need to be removed from the ditches.

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Design Concepts

Each of the proposed elements of the remedial action plan has one or more purposes.

The purpose of the geotextile is to provide separation between the in-situ material and the $\frac{3}{4}$ inch crushed aggregate. Separation should minimize the potential for upward migration of deeper material toward the surface by frost action.

The purpose of $\frac{3}{4}$ inch crushed limestone in the north ditch and outlot is to provide buffering capacity of surface water from selected areas in the outlot area. The buffering will reduce the mobility of residual copper in the shallow subgrade soils in these areas.

Removal of surface soil with 700 mg/kg copper or above will be performed to a depth of approximately four inches. The excavation of the surface four inches will allow removal of the observed copper (soil) concentrations and allow a cover layer of new, limestone aggregate to hold the separation filter fabric in place.

Please call Jim Hutchison at Foth & Van Dyke (920 497-2500) or Jana Murphy at Flambeau (715-532-6690), should you have any questions.

Sincerely,

Foth & Van Dyke and Associates, Inc.

James B. Hutchison, P.E.

Lead Environmental Engineer

Stephen V. Donohue, P.H. Senior Project Manager

cc: Jana Murphy, Flambeau Mining Company Ken Markart, WDNR (Rhinelander)

Jon Kleist, WDNR (Ladysmith)

Al Christianson, City of Ladysmith

Randy Tatur, Rusk County

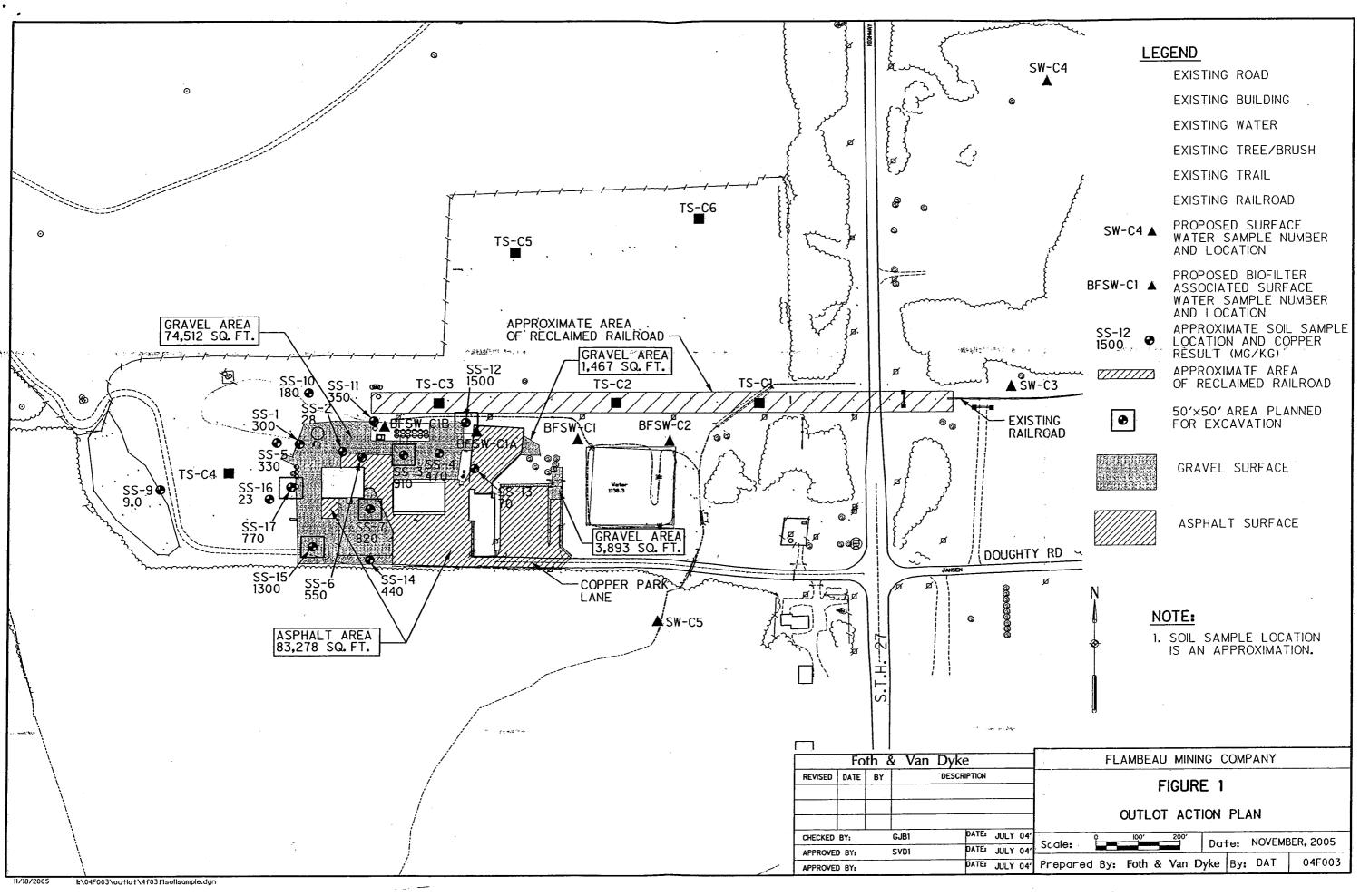
Mark Steward, Rusk County Zoning

Tom Riegel, Town of Grant

Hank Handzel, DeWitt, Ross & Stevens

Fred Fox, Kennecott Minerals

Marten Cieslik, Foth & Van Dyke



Flambeau Mining Company N4100 Highway 27 Ladysmith, WI 54848 (715) 532-6690 FAX (715) 532-6885

December 2, 2005

Kennecott Minerals

Mr. Lawrence J. Lynch
Mine Reclamation Unit
Bureau of Solid and Hazardous Waste Management
101 S. Webster Street, GEF II
PO Box 7921
Madison, WI 53707

Dear Mr. Lynch:

RE: Amended Flambeau Industrial Outlot Action Plan

This letter is being submitted by Flambeau Mining Company (Flambeau) to amend the Industrial Outlot Action Plan submitted in a letter from Foth & Van Dyke dated November 22, 2005.

The original Action Plan called for excavating to a depth of four inches in five areas measuring 50 foot by 50 foot. Flambeau is amending the Action Plan to include excavating a minimum of four inches in all areas that are currently gravel around the buildings of the Industrial Outlot. The entire area of excavation around buildings and within drainage ways is approximately 10,500 square yards.

In accordance with the November 22, 2005 Action Plan geotextile will be placed in the bottom of the excavation then covered with a minimum of four inches of ¾ inch crushed limestone aggregate. As feasible, Flambeau intends to conduct as much of the excavation and limestone fill before year end. Freezing ground conditions may defer the completion of the Action Plan until Spring 2006.

In addition, during Spring 2006 Flambeau will conduct water quality sampling to evaluate the effectiveness of the excavation/limestone fill Action Plan in reducing the source of copper to the biofilter. Asphalt installation in select areas during Spring 2006 will be determined by tenants' needs and results of water quality sampling.

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Please call me at 715-532-6690, should you have any questions.

Sincerely,

Jana E. Murphy

Environmental & Reclamation Manager

cc:

Marten Cieslik, Foth & Van Dyke Al Christianson, City of Ladysmith

Fred Fox, KMC

Hank Handzel, DeWitt, Ross & Stevens

Jim Hutchison, Foth & Van Dyke Jon Kleist, WDNR (Ladysmith)

Ken Markart, WDNR (Rhinelander)

Randy Tatur, Rusk Co. Tom Riegel, Town of Grant Mark Steward, Rusk Co. Zoning



State of Wisconsin \ DEPARTMENT OF NATURAL RESOURCES

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December 6, 2005

Ms. Jana Murphy Flambeau Mining Company N4100 Hwy. 27 Ladysmith, WI 54848

Dear Ms. Murphy:

We have completed our review of the information contained in letters dated November 22, 2005 and December 2, 2005 regarding proposed excavation of gravel material in the Flambeau Industrial Outlot area. The proposed excavation work is a positive additional step in addressing the continuing issue of elevated copper concentrations in site runoff and the 0.9 – acre biofilter.

The procedures described in the two letters are generally acceptable. Please keep me and Ken Markart informed as to the schedule for initiation and completion of the work. Also, please provide a summary report of the work when the project has been completed and, if the work is temporarily halted due winter conditions, provide a status report of the work completed to that point and a description of the work to be finished in the spring.

Please feel free to contact me if you have any questions or need additional information concerning this matter.

Sincerely,

cc:

Lawrence J. Lynck, P.G., Mining Team Leader

Bureau of Waste Management

Ken Markart – NOR (Rhinelander)

Tom Portle - WA/3

