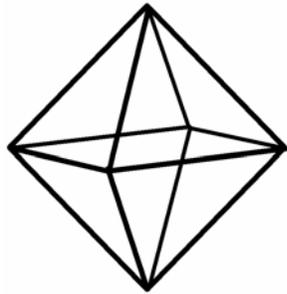


Plan



Kennecott
Eagle Minerals

Eagle Project

Impermeable Surface Inspection
and Surface Repair Plan

Project I.D.: 04W018

Kennecott Eagle Minerals Company
Michigamme Township, Michigan

December 2007

Eagle Project

Impermeable Surface Inspection and Surface Repair Plan

Project ID: 04W018

Prepared for
Kennecott Eagle Minerals Company
ISO 14001:2004 Registered System

Prepared by
Foth Infrastructure & Environment, LLC

December 2007

Eagle Project
Impermeable Surface Inspection and
Surface Repair Plan

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Figure 1 Contact Area Impermeable Surface

Appendices

Appendix A Impermeable Surface Inspection Log

1. Impermeable Surface Inspection and Surface Repair Plan

1.1 Introduction

This Impermeable Surface Inspection and Surface Repair Plan has been prepared to address integrity monitoring of impermeable surfaces that will be exposed to contact storm water. The monitoring plan includes frequency of inspection and action plans for surface repair, along with a sample inspection log documenting the date of inspection, identification of the inspector, results, and required follow-up action. Inspection documents will be kept on site.

Figure 1 indicates impermeable surface areas with potential for exposure to contact water. Areas covered under this plan include:

- ◆ Coarse Ore Storage Area (COSA).
- ◆ Truck Wash Area.
- ◆ Bituminous Surfaced Areas.

Other areas with impermeable surfaces with potential for exposure to contact water include the temporary development rock storage area (TDRSA), the fuel storage area, and the contact water basins (CWB). These areas will be monitored under separate plans.

1.1.1 The COSA

The COSA will be constructed to contain mined ore awaiting processing. The COSA building will measure approximately 1,394 m² (15,000 ft²) having a storage capacity of 3,000 m³ (3,924 yd³). This building will be enclosed on three sides and constructed of steel framing with steel siding. A clear plastic drop door will be installed across the open side to minimize precipitation contact with the ore and reduce particulate release. The floor of the COSA will be constructed of 12-in thick reinforced concrete sloping to a catch basin for collection of contact water. To minimize potential reinforcement steel corrosion, the reinforcement will be epoxy-coated. Any collected contact water will be pumped to the CWB for treatment. A vapor barrier will be installed below the concrete floor to provide additional moisture retention.

1.1.2 Truck Wash Area

Ore transport trucks leaving the main operations area will be required to go through a truck wash prior to leaving the facility. The truck wash, an approximately 4,000 square foot facility, will be an enclosed system that recycles the wash water. Solids will be removed from the wash water using a series of cyclone separators.

1.1.3 Bituminous Surfaced Areas

Bituminous surfaced areas will be constructed in the areas shown on Figure 1. These areas are generally located in the southern part of the main operations area and include the roadway from the mine portal to the COSA facility, the crusher and crushed ore bins area, laydown area, and the entrance to the truck wash. The bituminous areas will consist of 4-inches of bituminous concrete supported by 12-inches of road aggregate.

1.2 Site Inspections and Monitoring

1.2.1 COSA

KEMC personnel will provide monthly inspections of the COSA floor slab during time periods when ore is stored in the facility.

Areas of the COSA which do not contain ore will be inspected and repaired as necessary. Then, ore will be moved to these previously inspected/repared areas and the exposed portion of the COSA floor inspected and repaired as necessary. Staging of inspections as described herein will be performed until the entire COSA floor area is evaluated.

To evaluate the catch basins in the COSA, any standing liquid will be removed and properly disposed of, and the catch basins inspected for any potential areas of leakage or cracking.

KEMC personnel will complete monthly inspection logs outlining dates of inspection, identification of the inspector, results, and required follow-up action. A sample inspection log is included in Appendix A.

1.2.2 Truck Wash Area

KEMC personnel will provide monthly inspections of the truck wash concrete pavement during mining operations. Catch basins will be evaluated by removing standing liquid and visually inspection the basin for leaks and cracks.

Monthly inspection logs (Appendix A) will be completed during the inspections.

1.2.3 Bituminous Surfaced Areas

Bituminous surfaced areas will be inspected on a monthly basis. KEMC personnel will observe the pavement for cracking and other pavement surface problems that may compromise its impermeability or develop into potholes, such as alligatored areas, which are interconnecting cracks forming a series of blocks resembling alligator skin.

KEMC personnel will complete monthly inspection logs outlining dates of inspection, identification of the inspector, results, and required follow-up action. Repairs will be performed in a timely manner.

1.3 Repair Methods

1.3.1 Concrete Areas

Once identified, cracks that have the potential to provide a conduit for contact water transmittal will be sealed by methods appropriate to their size. Based on the size of the crack, repairs will be conducted by one of two methods: routing and epoxy troweling, and epoxy grouting. Cracks that are less than 1/8-inch in width will be considered Class 1 cracks; cracks greater than 1/8-inch in width will be considered Class 2 cracks.

Class 1 cracks will be repaired by routing and epoxy troweling. Routing of the crack consists of routing the crack with a concrete saw or other hand or pneumatic tool, to open the crack sufficiently to receive the sealant. A minimum routed width of 1/4 - inch is desirable since smaller

openings are difficult to fill. The surface of the routed crack will be cleaned and allowed to dry. Epoxy sealing will then be troweled into the crack. Separation of the floor slab from the perimeter wall/foundation of the COSA will generally be treated as Class 1 cracks and filled by epoxy troweling.

Class 2 cracks will be repaired by epoxy injection. This method generally consists of drilling holes at close intervals in the crack and injecting epoxy under pressure. This fills the crack entirely to provide a good seal.

Larger areas where mechanical damage has occurred may require removal and replacement with new concrete. In these areas, the damaged area will be cut out and removed, new reinforcement bars drilled and grouted into the existing concrete, and a new section of concrete placed.

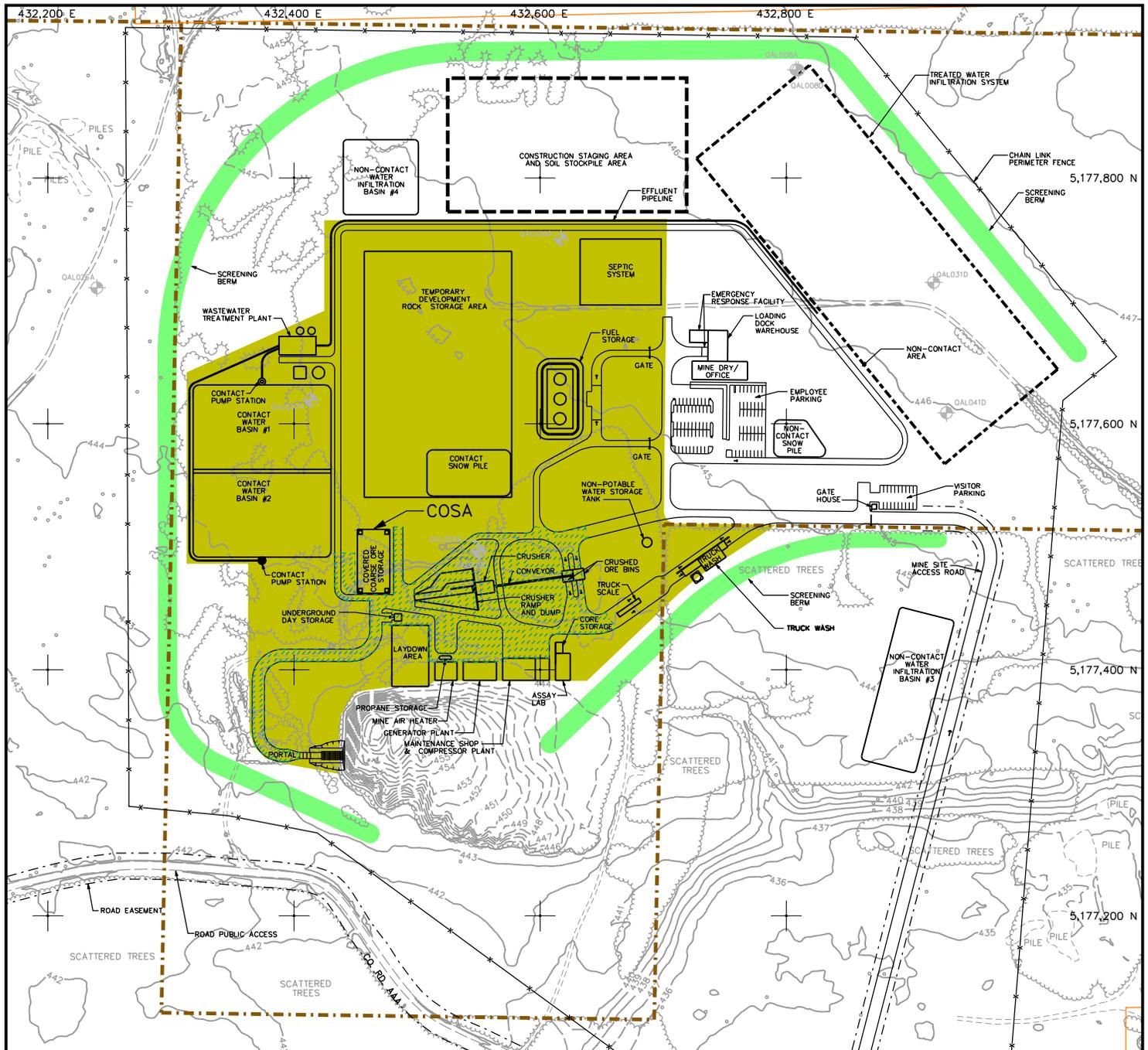
1.3.2 Bituminous Surfaced Areas

As with concrete pavement, repair methods for cracks in bituminous surfaced areas will vary with the size of the crack as described below:

- ◆ Minor Cracks: Minor cracks are less than ¼-inch wide and can generally be filled with an asphalt emulsion sealer.
- ◆ Structural Cracks: Structural cracks are cracks between ¼-inch and 1-inch wide. These will generally be sealed with a hot elastomeric-type crack sealant.
- ◆ Cracks wider than 1-inch: Cracks wider than 1-inch will be patched with hot mix asphalt.

Prior to repair, the cracks will be cleaned with compressed air, or other appropriate method, to remove deleterious material. Cracks between ¼-inch and ½-inch wide will be routed to a minimum of ½-inch by ½-inch in shape. The cleaned cracks will be sealed with the elastomeric sealant or hot mix asphalt, depending on size, and allowed to cure prior to exposure to traffic.

Figures



NOTES:

1. TOPOGRAPHIC AND PLANIMETRIC DATA SUPPLIED BY AERO-METRIC ENGINEERING, SHEBOYGAN, WISCONSIN. DATE OF PHOTOGRAPHY: JUNE 2, 2004.
2. MINE PLAN DATA ADAPTED FROM MCINTOSH ENGINEERING, INC., TEMPE, ARIZONA.
3. SURFACE PROPERTY BOUNDARY AS OF NOVEMBER 18, 2004 SUPPLIED BY KENNECOTT VIA GOLDER & ASSOCIATES INC., AUGUST, 2005.
4. CONTOUR INTERVAL BASED ON NORTH AMERICAN VERTICAL DATUM OF 1988. HORIZONTAL DATUM BASED ON NAD 83/94. HORIZONTAL COORDINATES BASED ON UTM ZONE 16.
5. SITE LOCATION: PROJECT SITE WITHIN SECTIONS 11 & 12, T50N, R29W, TOWN OF MICHIGAMME, MARQUETTE COUNTY, MICHIGAN.

LEGEND

- EXISTING ELEV. CONTOUR IN METERS MSL
- UNPAVED ROAD
- TREE
- TREE LINE
- KENNECOTT PROPERTY BOUNDARY
- ROAD EASEMENT PROVIDE BY MCINTOSH ENGINEERING, INC., AUGUST, 2005
- TREATED WATER INFILTRATION SYSTEM
- PLANIMETRIC WETLAND NOTATION
- PERIMETER FENCE
- MAIN OPERATIONS AREA
- BITUMINOUS LINED OPERATIONS AREA



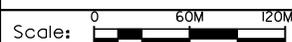
Foth Infrastructure & Environment, LLC			
REVISED	DATE	BY	DESCRIPTION
CHECKED BY:		JOS1	DATE: DEC. '07
APPROVED BY:		SVD1	DATE: DEC. '07
APPROVED BY:			DATE:



**Kennecott
Eagle Minerals**

FIGURE 1

CONTACT AREA IMPERMEABLE SURFACES



Date: DECEMBER, 2007

Prepared By: GJB

Project No. 04W018

Appendix A

Impermeable Surface Inspection Log

Impermeable Surface Inspection Form
Kennecott Eagle Minerals Company

Inspector: _____
Date: _____

Concrete Pavement
Inspection Area: _____

Inspection Results

Recommended Actions

Follow-up of Previous Recommendations

Date of Next Inspection: _____

Archive Inspection Form Until: _____ (5 yrs from date of inspection)

Impermeable Surface Inspection Form
Kennecott Eagle Minerals Company

Inspector: _____
Date: _____

Bituminous Pavement
Inspection Area: _____

Inspection Results

Recommended Actions

Follow-up of Previous Recommendations

Date of Next Inspection: _____

Archive Inspection Form Until: _____ (5 yrs from date of inspection)