COMMENTS REGARDING THE DESIGN AND MANAGEMENT OF THE PROPOSED VAN DE MARK CHEMICAL CO., INC. INDUSTRIAL SOLID WASTES LANDFILL, LOCKPORT, N.Y.

FOR

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BY

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INTRODUCTION

After analyzing the Great Lakes Lab's (GLL) results from chemical and physical sampling of Eighteenmile Creek and the groundwater as well as the vegetation in the vicinity of the proposed landfill site for solid wastes from the Van De Mark Chemical Co., Inc., it is our professional opinion that the site could be utilized as a solid waste landfill without causing major adverse ecological impacts on the aquatic and terrestrial environments adjacent to the proposed landfill. The following is our recommendations, organized primarily on the basis of the items in the New York State Department of Environmental Conservation's Checklist for Sanitary Landfill Design that the GLL was asked to address via Purchase Order VDM-77-101S from William W. Whitmore III.

It is our understanding that the wastes to be deposited at the site will be contained in sealed drums.

GENERAL

With respect to <u>final site use</u>, we recommend that after the site has been filled that the land be allowed to return to a natural state. Thereafter, it would require little or no management.

We do not recommend that any buildings be erected at the site since there could bearing problems after the wastes within the barrels consolidate. Also, if extensive excavation, of any extent necessary to install a basement, were done after the

site was filled, it might remove the clay and promote undesirable leaching of possibly-contaminated groundwater which might enter Eighteenmile Creek.

SITE DESCRIPTION

The existing and suggested cover vegetation was described in the GLL report that was prepared by Dr. Eric Randall and submitted to W.W.W. Consulting Engineers.

The quality of surface water of Eighteenmile Creek above, adjacent, and downstream of the site, as well as the analysis of groundwater within and adjacent to the site were included in the GLL's chemical report that was prepared by Dr. Robert A. Sweeney and also submitted to W.W.W. Consulting Engineers.

DESIGN SPECIFICATIONS

With respect to landscaping we recommend that the existing site be graded to a gentle slope so that surface drainage flowed towards the center of the proposed landfill. A mound at least two meters (2 m) wide and a meter (1 m) high should be created on the west, south, and east sides of the site so that the site was three-quarters surrounded by a ridge. This should be planted with crownvetch, and Birdsfoot trefoil, perennial rye-grass or Reed canary grass to inhibit erosion. Detailed planting instructions, which will vary to some degree with the desired time of planting, weather conditions, availability of seeds, and other factors will be provided upon request if and when this suggestion is accepted.

The mound to the east should be constructed to keep the present surface drainage outside of the proposed site. The latter drainage ditch should be cleared of projections that would result in the pending of water.

OPERATIONS PROCEDURES

With respect to leachate control, it is our opinion that the horizon of clay underlined by a limestone strata presently at the proposed site should be sufficient to inhibit leaching from the site.

Monitoring of the groundwater via the presently bored test wells for the parameters utilized in the GLL's chemical report should be done on a monthly basis. Stream monitoring should be conducted at least four (4) times per year. Two (2) of the latter efforts should be done within a day after periods of precipitation and/or snow melt, amounting to one inch or more in twenty-four (24) hours. The same stream stations and parameters should be employed as were used by the GLL's chemical report. The condition of the vegetation within and adjacent to the disposal site should provide information on the condition of the soil and/or atmosphere. If localized browning occurs, the soil should be monitored, particularly for pH.

In operating the facility, it is suggested that the sod above the region to be trenched be removed in a manner that would least disrupt the root structure. The trench to contain

the barrels should be dug to a depth of at least one-half meter (1/2 m) deeper than the height of the barrels. Ten (10) centimeters (10 cm) of crushed limestone should be placed in the trench. The barrels should be placed atop the stone and more stone should be added around and above the barrels to a depth of ten centimeters (10 cm). The surface horizon of the soil that was below the sod should be spread on the upper limestone layer. The sod should be replaced and rolled.

It is urged that the barrels be stored until a sufficient number which could be buried and covered in no more than two (2) days has been amassed. If the above is followed, there will be disruption at the site only approximately once a month.

The trench to contain the barrels should be dug perpendicular to the flow of the groundwater.