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FINAL EVALUATION OF LANDLOCK AS A SPRAY-ON EROSION CONTROL AGENT

Transportation Laboratory

October 2, 1974

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State of California

Business and Transportation Agency

Memorandum

To : Mr. John L. Beaton
Chief Engineer, Transportation Laboratory

Date: October 2, 1974

File : L.A. 642146

From : **DEPARTMENT OF TRANSPORTATION**
Division of Highways - Transportation Laboratory

Subject: Final Evaluation of Landlock as a Spray-on Erosion Control Agent

This report summarizes the results of a State-financed research project to evaluate Landlock as a spray-on erosion control agent in uncemented sandy soil. This evaluation was performed on the market formula for Landlock. Preceding work was done with research formulations. This was the 2nd treatment of this slope with Landlock. (See photo 1).

Landlock was found to be slightly less effective than the more economical, more easily applied poly-vinyl-acetates when applied at approximately equal rates of 200 gallons per acre. This material is sometimes difficult to apply uniformly. It requires application from at least two directions since it coagulates before penetrating into depressions behind protrusions. The timing is critical. The product should be applied to provide an amount of coverage rather than applying a given amount in a given time. Landlock appears to have no significant effects on vegetative growth or reseeding by annuals. (See photos 2-7).

Based upon the results of this project we cannot, for economic reasons, recommend the frequent use of Landlock as a spray-on erosion control agent. This conclusion applies only to the Landlock System as applied by the Minnesota Mining and Manufacturing Company. Due to proprietary control, application of the product is only by the vendor.

This project was a cooperative effort with the Transportation Laboratory, District 05, and the 3M Company. The grading was done under the direction of District 05. The application was performed by 3M personnel and their certified applicators, Cagwin and Dorward. Observations and reporting were by the Transportation Laboratory.

APPROVED

Beaton 10/3

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The application was in two stages using hydroseeding equipment supplied by Cagwin and Dorward. First the seed and fertilizer were applied with 1/3 of the fiber followed by application of the Landlock over the first layer with the remaining fiber. The following rates were used:

Seed:

Blando Brome	20#/A
Lana Vetch	20#/A
Mission Veldt grass	20#/A
Crimson Clover	10#/A
Wilton Rose Clover	10#/A

Fertilizer:

Mag. Amp	500#/A
16-20-0	250#/A

Fiber:

Silva fiber	750#/A

Landlock 200#/A

Maintenance costs were approximately the same for the Landlock applications as for the previous treatments applied in this area. All treated areas had lower maintenance costs than the untreated areas. The total maintenance time for cleaning up sediment was approximately 30% lower after treatment of the area then before treatment (see plate 8).

Raymond A. Forsyth
Chief, Foundation Section

TPH:kt

Attachments

cc: RPeterson-3M
JHagman-3M
JSimpson-3M
WGrable-03 Maint.
EMiester-03 Maint.
RHallin-Landscape Arch.
CCPeterson (2)
GAHill
TransLab Library (2)
RAForsyth
MLMcCauley
Research Coordination (2)

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Plate 1 Results of first Landlock Application 3/13/73

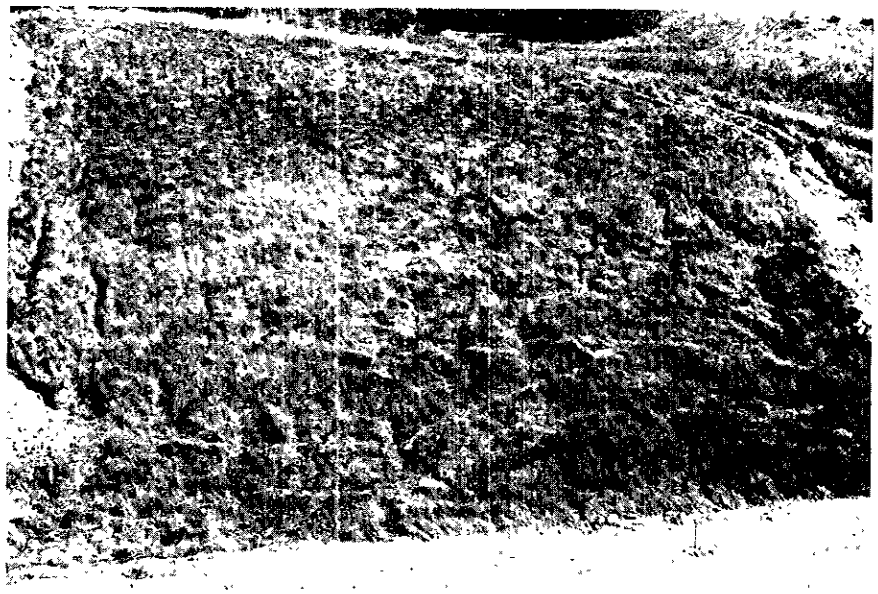

Plate 2 Excelcior blanket on left poly-vinyl-acetate on right. 9/29/73

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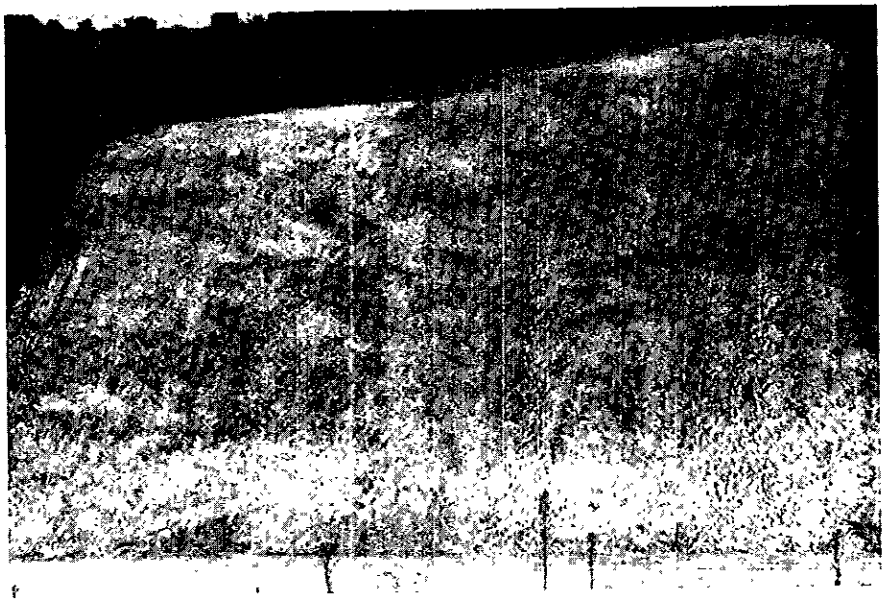

Plate 3 Slope regrooved for final Landlock trial. 9/23/73

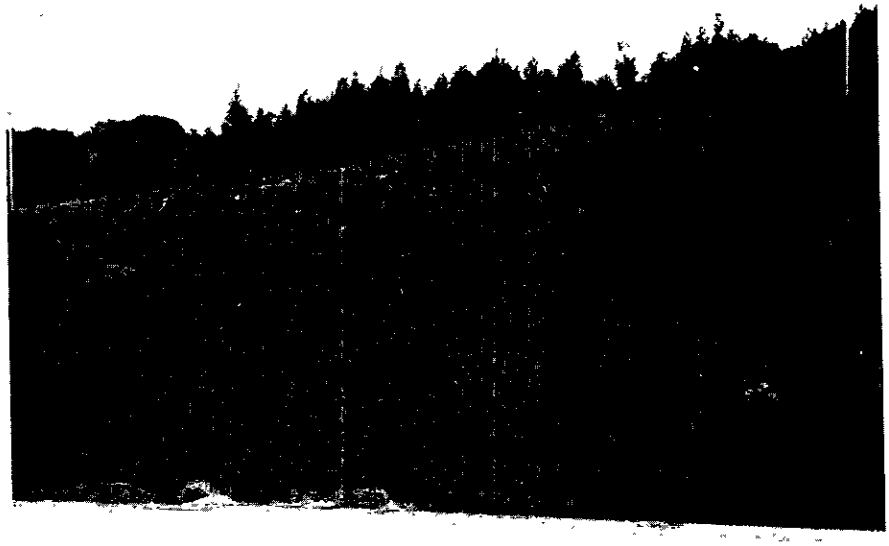

Plate 4 Landlock left and center 2/27/74

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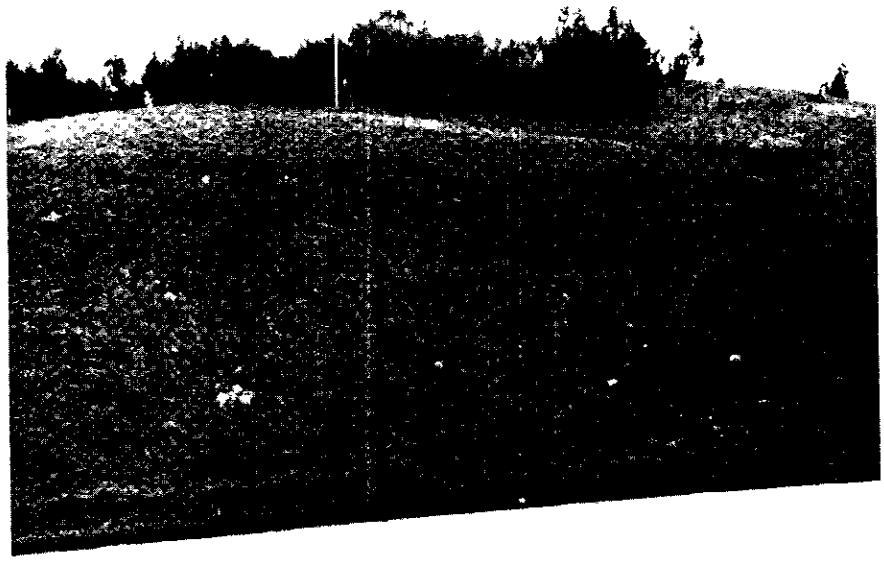

Plate 5 Previously treated area 2/27/74

Plate 6 Deep gullies in eroded Landlock 8/26/74

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Plate 7 Previously treated area in center with Landlock on both sides 8/26/74

Plate 8 Untreated area last groomed prior to 1972 8/26/74

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