



2004 October 27

Mr. Thomas C. Settles  
Chief Executive Officer  
Omega Paving & Environmental Management Group,  
612 Moreland Avenue, S.E.

**RE: Jamaican PZ 22X (Pave-Zyme) Road Rehabilitation Project**

Dear Mr. Settles:

As Engineer i/c of the Soils/Materials Research Unit at the National Works Agency, within the Ministry of Transport and Works, I am responsible for the coordination of research activities involving "innovative initiatives in Road Pavement Designs and construction."

In June 2001, a demonstration project involving the use of Pave-Zyme Product was conducted on a section of road in Manchester, Jamaica W.I.

This pave-Zyme product is incorporated into the basecourse as an additive with the following proven benefits.

1. Use of additives (Pave-Zyme) to modify existing gravel wearing courses and insitu local material to improve the durability and load carrying capacity of the Material.
2. The use of additives (Pave-Zyme) under conventional thin bituminous surface to improve sub-standard pavement layers with a resultant cost benefit.

A policy of constructing a low maintenance road network particularly in the difficult terrain areas is recommended and therefore the use of soil stabilized road pavement using Pave-Zyme technology to improve the traditional road construction technology using marl basecourse for low traffic volumes (class "C" roads) in Jamaica is appropriate.

By applying a policy of pre-testing, mixing, matching and modifying local insitu materials by various means of treating, stabilizing or cementing the materials, the cost involved in moving or quarrying good material resources are substantially reduced, thereby resulting in significant cost savings

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Over the past three years I have been monitoring the Pave-Zyme basecourse road section and despite the exposure to several floods events (Tropical Storms) the paved road section constructed using Pave-Zyme basecourse has suffered no noticeable damage (Plate 1 & Plate 2).



Plate 1 – Paved roadway constructed using Pave-Zyme basecourse

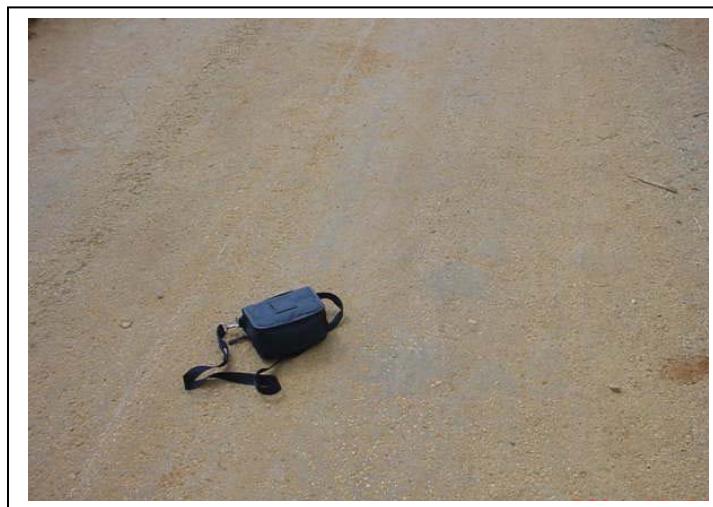


Plate 1 – Paved roadway constructed using Pave-Zyme basecourse

The National Works Agency performed several analytical tests on the Pave-Zyme base and after extensive testing, we now have empirical evidence that Pave-Zyme works. We saw a 50% improvement in our CBR rating of the treated basecourse when compare to the natural or untreated basecourse.

We also performed a cost analysis to determine whether or not this would be cost effective. We realized a 25% -30% savings over our traditional methods, which required the importation and transportation of new basecourse material.

Based on the above, we highly recommend the use of this product in road construction under the following conditions:

- The use of Pave-Zyme basecourse should be restricted to Tertiary roads where traffic loading is less than  $0.3 \times 10^6$  ESAL less than 500 vehicles per day.
- The Pave-Zyme basecourse should be surfaced with a double surface dressing, (Chip and Seal).
- A careful survey of the structural condition of the road pavements to a depth of at least 800mm should be conducted. Testing of the structural layers of the pavement is necessary to ascertain whether the distress evident on the road surface is associated with the sub-base or sub-grade of the road.
- It is important also to establish whether the drainage (subsoil and surface) of the road is adequate. It will be fruitless to improve the base of the road structure if the problem associated with the distress lies in the sub-base, sub-grade or drainage of the road.

We are very excited about this new method and plan to move forward expeditiously to improve the quality of life of the citizens of Jamaica. We are convinced that this is the way to go and we want to employ this method in use in upgrading our tertiary roads.

Sincerely,

Vivian Blair  
Engineer i/c Soils/Materials Research.

CC: Ms Sylvia Ashley, Sr. Vice- President Business Development  
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