

# **Full-Depth Reclamation of Asphalt Pavements Using Lime-Activated, Class F Fly Ash: Environmental Aspects**

**Ryan Mackos, Harold Walker, Tarunjit Butalia, and William Wolfe**

Ohio State University, Department of Civil and Environmental Engineering and Geodetic Science, 470 Hitchcock Hall, 2070 Neil Avenue, Columbus, OH 43210.

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## **ABSTRACT**

The goal of this study was to evaluate the use of lime-activated, Class F fly ash in the full-depth reclamation (FDR) of asphalt pavements. FDR is a flexible pavement reclamation process in which the full pavement section is uniformly pulverized, blended with chemical additives, and compacted to construct a new stabilized base. The specific objectives of the environmental component of this study were (1) to determine the leaching potential of selected constituents for the various FDR mixes; and (2) to monitor the water quality in the FDR base layer at two field sites. The field sites were both located in Ohio, one in Warren Co. and the other in Delaware Co. The Warren Co. site consisted of two FDR test sections; a 6% fly ash section and a control. Six test sections were constructed in Delaware Co., two of which contained approximately 5-6% class F fly ash. Laboratory tests indicated that the leaching of inorganic elements from FDR mixes was significantly below RCRA limits and Ohio non-toxic criteria, and similar or less than values observed for FDR mixes without fly ash. Analysis of groundwater in the FDR base was carried out on a monthly basis since 2006. Water recovery from test sections containing fly ash has been significantly less than from non-fly ash-containing test sections. Chemical analysis of water obtained from the fly ash test section indicated that the levels of inorganic elements were below primary drinking water standards and were similar to levels observed in control sections.

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