

# EVALUATION OF NONTRADITIONAL STABILIZERS WITH SILTY- CLAY

**Bayat Arash**

University of Tehran, Master Engineer

KEYWORDS: soil stabilization, Subgrade, Cement , Lime , Polymer , Ionic stablizer

## ABSTRACT

Stabilization of pavement subgrade soils has traditionally relied on treatment with lime, cement. Marketed as alternatives to these conventional bulk soil stabilizers, a variety of concentrated liquid chemical products are sold by several companies. Most transportation agencies, however, are hesitant to specify these nontraditional liquid stabilizers without reliable data to support vendor claims of product effectiveness. In this study, standard laboratory soil tests were conducted to measure changes in the engineering properties of silty-clay soils when treated with three liquid notraditional products. The tests involved two soil (clay for curing study and silt for engineering properties study) and three notraditional stabilizers (ionic, two polymer types) and two traditional stabilizer (lime, cement). Tests were conducted on untreated control soil samples and on samples treated with each product at four application rates (suppliers' recommended and over it). specimens were same mixing, compaction, and cured in different condition and tested in wet, dry, immerse situation, that allowed objective comparisons of the test results. Each treated and untreated soil was characterized in terms of the unconfined compressive strength (wet, dry, immerse qver 300 specimens), C.B.R (wet, immerse), Atterberg limits, compacted unit weight, free swell potential, PH and SEM.

**Submitted for consideration in the 2007 World of Coal Ash Conference, May 7-10, 2007.**