



جمهورية العراق  
وزارة التعليم العالي والبحث العلمي  
الجامعة التكنولوجية  
قسم هندسة البناء والإنشاءات  
فرع هندسة الطرق والجسور

## تثبيت التربة الضعيفة باستخدام الأسمنت البورتلندي

مشروع سنوي مقدم الى  
الجامعة التكنولوجية قسم هندسة البناء والإنشاءات فرع هندسة الطرق والجسور وهو جزء  
من متطلبات نيل شهادة البكالوريوس في علوم هندسة البناء والإنشاءات

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## **ABSTRACT**

This study is about stabilizing fine grained soil after grinding and mixing in a different percentage of Portland cement and water.

Baladroz soil was used with percentage of (3, 5, 7 and 10%) of cement was added to the soil and the influence of this admixture was observed by comparing the result of Portland cement with untreated soil and with results of other additives (lime, lime with cement).

The properties chosen for this comparison were the physical, consolidation and unconfined compressive strength test.

The results show that the plasticity index decrease and the max dry weight increase and the optimum water content decrease with increase of additive percent.

The void ratio will decrease with increase of the additive percentage.

The unconfined compressive strength test increase with increase of the additive percent and with increasing with the curing time and will became at its heights value with the curing time 28 day and at 7% of additives.

The results showed that the addition of this material has a positive effect to the geotechnical properties and the results.