

ABSTRAK

Tanah memiliki peran penting dalam setiap pekerjaan di bidang teknik sipil . hal ini dikarenakan setiap konstruksi bangunan sipil dibangun di atas tanah. Pembangunan seperti jalan, bangunan konstruksi dan kontruksi lainnya memerlukan pondasi tanah agar pembangunan dapat di kerjakan dan bias gunakan untuk manusia. Pembangunan pada suatu konstruksi juga memiliki daya dukung yang rendah .Tanah ekspansif merupakan jenis tanah lempung yang memiliki kembang susut yang besar. Maka untuk memperbaiki masalah tanah dilakukan stabilisasi tanah. Penelitian ini bertujuan untuk mengetahui pengaruh matos *soil stabilizer* pada campuran kapur dan tanah terhadap sifat sifat fisis, lokasi pengambilan sampel tanah yang akan diteliti terletak di Peniraman *Quary* ,Kecamatan Sungai Pinyuh , Kab.Mempawah, Kalimantan Barat. Tahap pertama dilakukan terlebih dahulu pengujian mekanis yang terdiri dari pemadatan dan UCS . pengujian selanjutnya di lakukan pengujian sifat fisis yang terdiri dari kadar air, berat volume, berat jenis, batas-batas *atterberg*, *hydrometer* dan permeabilitas. Pengujian sifat fisis tanah di lakukan pada campuran kapur 4% dan variasi matos *soil stabilizer* 1%,2%,4%,8% . Hasil pengujian tanah peniraman didapat berat jenis 2.614 , indeks plastisitas 14.25% koefisien permeabilitas $3.4851E-06$ cm/detik , klasifikasi tanah berdasarkan AASHTO A-7-6 , berdasarkan USCS termasuk ML (lanau anorganik, pasir halus sekali, serbuk batuan, pasir halus berlanau atau berlempung), dan berdasarkan USDA termasuk Tanah liat berlanau. Pada pengujian variasi terbaik yaitu campuran 8% matos soil stabilizer didapat berat jenis 2.187 , indeks plastisitas 6,035% koefisien permeabilitas 0.0000016239 cm/detik , klasifikasi tanah berdasarkan AASHTO A-5 , berdasarkan USCS termasuk ML (lanau anorganik, pasir halus sekali, serbuk batuan, pasir halus berlanau atau berlempung), dan berdasarkan USDA termasuk Tanah liat berpasir, sehingga dapat disimpulkan bahwa semakin tinggi variasi matos yang di uji maka semakin bagus indeks plastisitas dari tanah tersebut .

Kata kunci : Matos Soil Stabilizer, kapur, sifat fisis, stabilisasi, tanah

ABSTACT

Soil has an important role in every job in civil engineering. this is because every civil building construction is built on the ground. Development such as roads, construction buildings and other constructions require soil foundations so that development can be done and can be used for humans. Construction on a construction also has a low carrying capacity. . Expansive soil is a type of clay soil that has a large shrinkage. So to fix the soil problem is carried out soil stabilization. This study aims to determine the effect of matos soil stabilizer on a mixture of lime and soil on the nature of physical properties. The location of soil sampling to be studied is located in Peniraman Quarry, Sungai Pinyuh District, Mempawah District, West Kalimantan. The first stage is carried out first mechanical testing consisting of compaction and UCS. Further testing is carried out fission properties consisting of moisture content, volume weight, specific gravity, atterberg limits, hydrometer and permeability. Testing of soil physical properties was carried out on a mixture of 4% lime and variations of matos soil stabilizer 1%, 2%, 4%, 8%. The results of the watering soil test were obtained specific gravity 2.614, plaqueicity index 14.25% permeability coefficient 3.4851E-06 cm / sec, soil classification based on AASHTO A-7-6, based on USCS including ML (inorganic silt, very fine sand, rock powder, silt fine sand or clay), and based on USDA including silt clay.in the best variation test is a mixture of 8% matos soil stabilizer obtained specific gravity 2.187, plaqueicity index 6.035% permeability coefficient 0.0000016239 cm/sec, soil classification based on AASHTO A-5, based on USCS including ML (inorganic silt, very fine sand, rock powder, silt fine sand or loam), and based on USDA including sandy clay, so it can be concluded that the higher the variation of matos in ujin, the better the plasticity index of the soil.

Keywords : *Matos Soil Stabilizer, lime, physical properties, stabilization, soil*