

**REPUBLIC OF KENYA**

**MINISTRY OF ROADS AND TRANSPORT**

**STATE DEPARTMENT OF ROADS**

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Ref No. M.2378/35/L/10 Date: 19th MAY, 2023

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| **Laboratory Test Report** |

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| **1. Customer’s Details:** RESIDENT ENGINEER KURA  **E-mail:** estherwa63@gmail.com  **Address:** P.O BOX 1795600500 NRB Phone: 0721515815  **2. Customer Contact:** 0721515815 6. Job Card No. 2427/S/2023  **3. Sample Description:** Alignment Soils 7. Date fee paid: 05/05/2023  **4. Sampled by:** Client. 8. GOK MR No.4115663  **5. Date Sample received:** 05/05/2023 9. Date Analysis started:11/05/2023  **10. Additional information provided by the customer:** Kiu- Kahawa Sukari Access Road and Kahawa West- Kamae to access to Thika Road.     |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | |  | TEST RESULTS | | | | | | | | | | | | | | | | | **Sample No.** | **Reference** | **Grading** | | | | | | **Atterberg Limits** | | | | | **Compaction T99** | | **CBR** | | | % Passing BS Sieve Size (mm) | | | | | | LL | PL | PI | LS | PM |  | OMC( % ) | 4days Soak  (%) | Swell(%) | | 20 | 10 | 5 | 2 | 0.425 | 0.075 | % | % | % | % |  | MDD Kg/m3 | | **KAHAWA WEST -KAMAE-ACCESS TO THIKA ROAD** | | | | | | | | | | | | | | | | | | 940/S/22 | KM 0+300 LHS | 100 | 99 | 88 | 62 | 43 | 40 | 51 | 30 | 21 | 11 | 903 | 1413 | 18.0 | 9 | 1.0 | | **SOIL COMPOSITION: Gravel = 38%, Sand = 22%, Silt/clay =40%** | | | | | | | | | | | | | | | | 941/S/22 | KM 0+800 LHS | 100 | 96 | 85 | 59 | 40 | 35 | 50 | 31 | 19 | 11 | 760 | 1388 | 18.4 | 12 | 1.0 | | **SOIL COMPOSITION: Gravel = 41%, Sand = 24%, Silt/clay =35%** | | | | | | | | | | | | | | | | 942/S/22 | KM 1+300 RHS | 100 | 77 | 57 | 50 | 41 | 37 | 62 | 36 | 26 | 13 | 1066 | 1204 | 33.0 | 3 | 1.2 | | **SOIL COMPOSITION: Gravel = 50%, Sand = 13%, Silt/clay =37%** | | | | | | | | | | | | | | | | 943/S/22 | KM 1+800 RHS | 100 | 98 | 75 | 48 | 26 | 21 | 55 | 32 | 22 | 11 | 572 | 1610 | 16.8 | 13 | 1.0 | | **SOIL COMPOSITION: Gravel = 52%, Sand = 27 %, Silt/clay =21%** | | | | | | | | | | | | | | | | 944/S/22 | KM 2+300 LHS | 100 | 98 | 79 | 61 | 37 | 28 | 43 | 25 | 19 | 9 | 703 | 1637 | 17.5 | 20 | 1.0 | | **SOIL COMPOSITION: Gravel = 39%, Sand = 33%, Silt/clay =28%** | | | | | | | | | | | | | | | | 945/S/22 | KM 2+800 RHS | 100 | 86 | 68 | 59 | 49 | 45 | 55 | 34 | 22 | 11 | 1078 | 1498 | 26.2 | 16 | 1.1 | | **SOIL COMPOSITION: Gravel = 41%, Sand = 14%, Silt/clay =45%** | | | | | | | | | | | | | | | |

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|  | TEST RESULTS | | | | | | | | | | | | | | | |
| **Sample No.** | **Reference** | **Grading** | | | | | | **Atterberg Limits** | | | | | **Compaction T99** | | **CBR** | |
| % Passing BS Sieve Size (mm) | | | | | | LL | PL | PI | LS | PM |  | OMC( % ) | 4days Soak  (%) | Swell(%) |
| 20 | 10 | 5 | 2 | 0.425 | 0.075 | % | % | % | % |  | MDD Kg/m3 |
| 946/S/22 | KM 3+300 RHS | 100 | 93 | 82 | 75 | 54 | 45 | 42 | 23 | 19 | 9 | 1026 | 1384 | 15.0 | 14 | 0.9 |
| **SOIL COMPOSITION: Gravel = 25%, Sand = 30%, Silt/clay =45%** | | | | | | | | | | | | | | |
| 947/S/22 | KM 3+800 LHS | 100 | 84 | 59 | 46 | 35 | 31 | 44 | 28 | 16 | 8 | 560 | 1537 | 18.4 | 11 | 0.35 |
| **SOIL COMPOSITION: Gravel =54%, Sand = 15%, Silt/clay =31%** | | | | | | | | | | | | | | |
| 948/S/22 | KM 4+300 RHS | 100 | 82 | 68 | 58 | 39 | 29 | 48 | 30 | 18 | 9 | 702 | 1382 | 22.4 | 18 | 0.9 |
| **SOIL COMPOSITION: Gravel = 42%, Sand = 29%, Silt/clay =29%** | | | | | | | | | | | | | | |
| **KIU - KAHAWA SUKARI ACCESS ROAD** | | | | | | | | | | | | | | | | |
| 949/S/22 | KM 0+450 | 100 | 87 | 63 | 46 | 29 | 25 | 37 | 25 | 12 | 6 | 348 | 1562 | 15.4 | 22 | 0.3 |
| **SOIL COMPOSITION: Gravel = 54%, Sand = 21%, Silt/clay =25%** | | | | | | | | | | | | | | |
| 950/S/22 | KM 0+600 | 100 | 89 | 82 | 78 | 65 | 55 | 34 | 27 | 7 | 4 | 455 | 1432 | 20.6 | 6 | 0.2 |
| **SOIL COMPOSITION: Gravel = 22%, Sand = 23%, Silt/clay =55%** | | | | | | | | | | | | | | |

**Eng. J. M. Mbarua**

**For: CHIEF ENGINEER (MATERIALS)**

**OiC Soils Laboratory CSE Soils Laboratory**

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