

**REPUBLIC OF KENYA**

**MINISTRY OF ROADS AND TRANSPORT**

**STATE DEPARTMENT OF ROADS**

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Ref No. M.745/35/L/10 Date: 16th October, 2023

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| **Laboratory Test Report** |

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| **1. Customer’s Details:** KENT AFRICA LIMITED  **E-mail: Not provided**  **Address:** P.O BOX 2897-00100 NRB Phone: 0722485561  **2. Customer Contact:** 0722485561 6. Job Card No. 909/S/2023  **3. Sample Description:** Base/ Subgrade Material 7. Date fee paid: 09/10/2023  **4. Sampled by:** Client. 8. GOK MR No.4367794  **5. Date Sample received:** 02/10/2023 9. Date Analysis started:08/10/2023  **10. Additional information provided by the customer:** Service Station Along Eastern By-pass-Kangundo Road.     |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | |  | TEST RESULTS | | | | | | | | | | | | | | | | | | | | | **Sample No.** | **Reference** | **Grading** | | | | | | | | | | **Atterberg Limits** | | | | | **Compaction T180/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 | | 453/S/23 | TP1 Base  1st Layer | 100 | | 81 | | 67 | | 58 | | 44 | 37 | 51 | 27 | 24 | 12 | 1056 | 1736 | 17.8 | 21 | 0.5 | | **SOIL COMPOSITION: Gravel = 42%, Sand = 21%, Silt/clay =37%** | | | | | | | | | | | | | | | | | | | | 599/S/23 | TP2 Base  1st Layer | 100 | | 100 | | 97 | | 91 | | 70 | 53 | 44 | 26 | 18 | 9 | 1260 | 1464 | 16.9 | 22 | 0.3 | | **SOIL COMPOSITION: Gravel = 9%, Sand = 38%, Silt/clay =53%** | | | | | | | | | | | | | | | | | | | | 600/S/23 | TP3 Base  1st Layer | 100 | | 87 | | 75 | | 66 | | 45 | 35 | 40 | 30 | 10 | 5 | 450 | 1369 | 22.6 | 25 | 0.4 | | **SOIL COMPOSITION: Gravel = 34%, Sand = 31%, Silt/clay =35%** | | | | | | | | | | | | | | | | | | | | 601/S/23 | TP 1 Subgrade  2nd Layer | 100 | | 91 | | 80 | | 72 | | 57 | 50 | 48 | 28 | 20 | 10 | 1140 | 1276 | 22.7 | 19 | 0.6 | | **SOIL COMPOSITION: Gravel = 28%, Sand = 22%, Silt/clay =50%** | | | | | | | | | | | | | | | | | | | | 602/S/23 | TP2 Subgrade  2nd Layer | 100 | | 85 | | 73 | | 65 | | 52 | 43 | 65 | 40 | 25 | 13 | 1300 | 1208 | 34.7 | 10 | 1.2 | | **SOIL COMPOSITION: Gravel = 35%, Sand = 22%, Silt/clay =43%** | | | | | | | | | | | | | | | | | | | | 603/S/23 | TP3 Subgrade  2nd Layer | 100 | 86 | | 73 | | 65 | | 54 | | 48 | 50 | 32 | 18 | 9 | 1674 | 1430 | 18.5 | 20 | 0.5 | | **SOIL COMPOSITION: Gravel = 35%, Sand = 17%, Silt/clay =48%** | | | | | | | | | | | | | | | | | | | |

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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 |
| 604/S/23 | TP 1 Subgrade  3rd Layer | 100 | 97 | 95 | 92 | 85 | 78 | 52 | 28 | 24 | 12 | 2040 | 1250 | 23.5 | 10 | | 0.45 |
| **SOIL COMPOSITION: Gravel = 8%, Sand = 14%, Silt/clay =78%** | | | | | | | | | | | | | | | |
| 605/S/23 | TP2 Subgrade  3rd Layer | 100 | 94 | 85 | 81 | 72 | 67 | 41 | 23 | 18 | 9 | 1296 | 1255 | 31.6 | 9 | | 0.35 |
| **SOIL COMPOSITION: Gravel = 19%, Sand = 14%, Silt/clay =67%** | | | | | | | | | | | | | | | |
| 606/S/23 | TP3 Subgrade  3rd Layer | 100 | 87 | 75 | 68 | 59 | 51 | 49 | 31 | 18 | 9 | 1062 | 1240 | 30.5 | 9 | | 0.35 |
| **SOIL COMPOSITION: Gravel = 32%, Sand =17%, Silt/clay =51%** | | | | | | | | | | | | | | | |
| 607/S/23 | TP3 Subgrade  4th Layer | 100 | 81 | 69 | 60 | 47 | 40 | 55 | 36 | 19 | 9 | **1504** | 1252 | 31.8 | 8 | 0.6 | |
| **SOIL COMPOSITION: Gravel = 40%, Sand =20%, Silt/clay =40%** | | | | | | | | | | | | | | | |

**Eng. J. M. Mbarua**

**For: CHIEF ENGINEER (MATERIALS)**

**OiC Soils Laboratory CSE Soils Laboratory**

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