

**REPUBLIC OF KENYA**

**MINISTRY OF ROADS AND TRANSPORT**

**STATE DEPARTMENT OF ROADS**

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Ref No. M.676/35/L/10 Date: 03rd October, 2023

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| **Laboratory Test Report** |

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| **1. Customer’s Details:** STECOL CORPORATION  **E-mail: Not provided**  **Address:** Not provided Phone: 0724780078  **2. Customer Contact:** 0724780078 6. Job Card No. 731/S/2023  **3. Sample Description:** Base /Subbase/subgrade/ Fill & OGL 7. Date fee paid: 21/09/2023  **4. Sampled by:** Client. 8. GOK MR No.4058946  **5. Date Sample received:** 21/09/2023 9. Date Analysis started:25/09/2023  **10. Additional information provided by the customer:** Mto Mwagogi-dawida-Mbale-Wundayi-Bura JNC (A23) Road RWC 608.     |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | |  | TEST RESULTS | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | **Sample No.** | **Reference** | **Grading** | | | | | | | | | | | | | | | | | | | **Atterberg Limits** | | | | | | **Compaction T180** | | **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 | | 343/S/23 | KM 48+900 RHS Base | 100 | | | | 95 | | | | 86 | | | | 78 | | | 57 | 32 | | | 30 | 20 | 9 | 5 | 513 | | 1850 | 12.0 | 40 | 0.2 | | **SOIL COMPOSITION: Gravel = 22%, Sand = 46%, Silt/clay =32%** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 344/S/23 | KM 48+900 RHS S/Base | 100 | | | | 96 | | | | 89 | | | | 81 | | | 64 | 43 | | | 42 | 31 | 12 | 6 | 768 | | 1770 | 15.6 | 35 | 0.2 | | **SOIL COMPOSITION: Gravel = 19%, Sand = 38%, Silt/clay =43%** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 345/S/23 | KM 47+900 LHS Base | 100 | | | | 91 | | | | 83 | | | | 76 | | | 52 | 29 | | | 40 | 30 | 11 | 5 | 572 | | 1780 | 15.6 | 35 | 0.2 | | **SOIL COMPOSITION: Gravel = 24%, Sand = 47%, Silt/clay =29%** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 346/S/23 | KM 47+900 LHS S/Base | 100 | | | | 95 | | | | 86 | | | | 76 | | | 55 | 31 | | | 39 | 25 | 14 | 7 | 715 | | 1720 | 17.5 | 30 | 0.3 | | **SOIL COMPOSITION: Gravel = 24%, Sand = 45%, Silt/clay =31%** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 347/S/23 | KM 51+600 RHS Base | 100 | | | | 89 | | | | 79 | | | | 69 | | | 52 | 35 | | | 38 | 25 | 13 | 6 | 676 | | 1720 | 17.5 | 35 | 0.2 | | **SOIL COMPOSITION: Gravel = 31%, Sand = 34%, Silt/clay =35%** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 348/S/23 | KM 51+600 RHS S/Base | 100 | | | 92 | | | | 75 | | | | 65 | | | 43 | | 36 | | | 32 | 21 | 10 | 5 | 430 | 1890 | | 14.5 | 30 | 0.2 | | **SOIL COMPOSITION: Gravel = 35%, Sand = 29%, Silt/clay =36%** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 349/S/23 | KM 53+700 LHS Base | 100 | | 92 | | | | 83 | | | | 76 | | | | 59 | | | | 38 | 34 | 24 | 11 | 5 | 649 | 1790 | | 14.5 | 30 | 0.2 | | **SOIL COMPOSITION: Gravel = 24%, Sand = 38%, Silt/clay =38%** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 350/S/23 | KM 53+700 LHS S/ Base | 100 | 96 | | | | 87 | | | | 78 | | | | 57 | | | | 31 | | 39 | 25 | 14 | 7 | 798 | 1800 | | 17.5 | 30 | 0.3 | | **SOIL COMPOSITION: Gravel = 22%, Sand = 47%, Silt/clay =31%** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

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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 |
| 351/S/23 | KM 48+900 RHS Subgrade | 100 | 95 | | 87 | 76 | 58 | 43 | 39 | 20 | 19 | 9 | 1102 | 1790 | 16.5 | 17 | 0.35 |
| **SOIL COMPOSITION: Gravel = 24%, Sand = 33%, Silt/clay =43%** | | | | | | | | | | | | | | | |
| 352/S/23 | KM 48+900 RHS OGL | 100 | 97 | | 87 | 63 | 40 | 25 | 55 | 29 | 27 | 13 | 1080 | 1869 | 13.6 | 5 | 0.40 |
| **SOIL COMPOSITION: Gravel = 37%, Sand = 38%, Silt/clay =25%** | | | | | | | | | | | | | | | |
| 353/S/23 | KM 47+900 LHS Subgrade | 100 | 97 | | 92 | 83 | 60 | 32 | 49 | 29 | 20 | 10 | 1200 | 1920 | 13.5 | 16 | 0.35 |
| **SOIL COMPOSITION: Gravel = 17%, Sand =51%, Silt/clay =32%** | | | | | | | | | | | | | | | |
| 354/S/23 | KM 47+900 LHS OGL | 100 | 92 | | 79 | 65 | 49 | 35 | 49 | 26 | 22 | 11 | 1078 | 1850 | 13.7 | 10 | 0.35 |
| **SOIL COMPOSITION: Gravel = 35%, Sand = 30%, Silt/clay =35%** | | | | | | | | | | | | | | | |
| 355/S/23 | KM 51+600 RHS Subgrade | 100 | 98 | | 96 | 91 | 50 | 21 | 48 | 27 | 21 | 10 | 1050 | 1780 | 17.5 | 18 | 0.3 |
| **SOIL COMPOSITION: Gravel = 9%, Sand = 70%, Silt/clay =21%** | | | | | | | | | | | | | | | |
| 356/S/23 | KM 51+600 RHS OGL | 100 | 100 | | 100 | 97 | 42 | 35 | 45 | 22 | 23 | 11 | 966 | 1720 | 11.7 | 8 | 0.35 |
| **SOIL COMPOSITION: Gravel = 3%, Sand = 62%, Silt/clay =35%** | | | | | | | | | | | | | | | |
| 357/S/23 | KM 53+700 LHS subgrade | 100 | | 95 | 88 | 79 | 68 | 45 | 48 | 26 | 22 | 11 | 1496 | 1780 | 14.0 | 15 | 0.35 |
| **SOIL COMPOSITION: Gravel = 24%, Sand = 31%, Silt/clay =45%** | | | | | | | | | | | | | | | |
| 358/S/23 | KM 53+700 LHS Fill | 100 | 94 | | 84 | 72 | 54 | 35 | 54 | 30 | 24 | 12 | 1296 | 1800 | 18.0 | 11 | 0.35 |
| **SOIL COMPOSITION: Gravel = 28%, Sand = 37%, Silt/clay =35%** | | | | | | | | | | | | | | | |

**Eng. J. M. Mbarua**

**For: CHIEF ENGINEER (MATERIALS)**

**OiC Soils Laboratory CSE Soils Laboratory**

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