## 1. GENERAL INFORMATION

**1.01** Discounts:
Trade discounts will be given on individual testing rates only, when the quantity of a particular test performed by the laboratory on samples that were delivered as a single batch, is as follows:
1 to 6 tests – no discount
7 to 15 tests – 2.5% discount
16 to 30 tests – 5% discount
Exceeds 30 tests or regular contract work – by negotiation

**1.02** The rates for laboratory tests do not include personnel or transport costs which may be incurred in obtaining the samples.

**1.03** **Civilab** reserve the right to alter the rates without notice.

**1.04** A minimum charge of R 300 (excluding 14% VAT) will be imposed on an individual test instruction, irrespective of the rates of testing as per this schedule. The normal rates of testing will be applicable if the total charge (excluding 14% VAT) exceeds R300

**1.05** The rates as per this schedule are only for services rendered during normal working hours. A surcharge will be imposed on priority testing.

**1.06** The listed rates for testing are only for the execution of tests in accordance with the corresponding scheduled test methods. Special requirements and the testing in terms of different methods are by negotiation.

**1.07** The **Civilab** standard terms and conditions as accompanying (page 8), will be applicable to all services provided.

**1.08** A comprehensive list of laboratory locations and contact details is available at: http://www.civilab.co.za/locations.htm

# Package- and Common Items

## ON-SITE TESTING

| | | | Unit | Unit Rate Excl. VAT | Unit Rate Incl. VAT |
|---|---|---|---|---|---|
| | **Establishment, Collections and Standing time of personnel:** | | | | |
| | Establishment of personnel (including travelling time) | | km | R 9.90 | R 11.29 |
| | Extra over for site visits where no on-site testing is performed/required (e.g. Collections) | | sum | R 300.00 | R 342.00 |
| | Personnel standing time on site | | Personnel rates as in 2 | | |
| PC1 | **Compaction Control: (minimum charge of R 760 per site visit)** | | | | |
| a. | Compaction Control: Field density by nuclear guage (Troxler) | | 4 test | R 760.00 | |
| b. | *Moisture Density Relationship: Mod. AASHTO effort | | test | R 465.00 | |
| | *Once-off charge for each material type | | | R 1 225.00 | R 1 396.50 |
| PC2 | **Dynamic Cone Penetrometer (DCP) Test: (minimum charge of R 760 per site visit)** | | | | |
| a. | Dynamic Cone Penetrometer Test: per metre or part thereof (maximum 2 metres): including disposable tip | | test | R 205.00 | |
| b. | Processing penetration data with CSIR program (Version 5.0) | | test | R 100.00 | |
| | | | | R 305.00 | R 347.70 |
| PC3 | **Concrete Control:** | | | | |
| a. | Concrete Control: Casting (on-site), curing and testing a set of up to six cubes | | set | R 755.00 | |
| b. | Slump Test | | test | R 105.00 | |
| | | | | R 860.00 | R 980.40 |
| c. | Curing and Crushing of a Concrete Cube | | cube (note 1.04) | R 50.00 | R 57.00 |
| | | | set of 6 cubes | R 300.00 | R 342.00 |
| PC4 | **Drilling (vertically orientated) and Testing of Concrete Cores (≤100mm diameter):** | | | | |
| a. | Setting-up at each position | | hole | R 295.00 | |
| b. | Drilling of a 0.2 metre core | | core | R 424.00 | |
| c. | Preparation of concrete cylinder/core for testing | | cylinder | R 265.00 | |
| d. | Curing and testing of concrete cylinder/core | | cylinder | R 145.00 | |
| | | | | R 1 129.00 | R 1 287.06 |

**Note: Establishment-, Collection- and Standing time charges are applicable to all on-site testing services**

## CONSTRUCTION MATERIALS : SOIL CLASSIFICATION

| | | Minimum Material Required (kg) | | | | |
|---|---|---|---|---|---|---|
| PC5 | **CBR and Road Indicator:** | | | | | |
| a. | Complete CBR (including Mod. AASHTO Moisture Density Relationship) | 50 | test | R 930.00 | | |
| b. | Road Indicator | 3 | test | R 425.00 | | |
| | The above two tests will produce a TRH14 and COLTO classification, i.e. G5-G10, or None. | | | R 1 355.00 | R 1 544.70 | |
| PC6 | **Foundation Indicator, Relative Density (S.G.) and Natural Moisture Content:** | | | | | |
| a. | Foundation Indicator | 3 | test | R 500.00 | | |
| b. | Relative Density (Specific Gravity) | 0.5 | test | R 225.00 | | |
| c. | Moisture content as received by laboratory | 0.5 | test | R 55.00 | | |
| | A Foundation Indicator test will produce a Unified (USC) and HRB (AASHTO) classification. The addition of the Moisture Content will produce the Weston Swell index. | | | R 780.00 | R 889.20 | |
| PC7 | **Moisture Density Relationship:** | | | | | |
| a. | Mod. AASHTO effort | 30 | test | R 465.00 | R 530.10 | |
| b. | Proctor effort | 20 | test | R 465.00 | R 530.10 | |

## CONSTRUCTION MATERIALS : AGGREGATES

| | | Minimum Material Required (kg) | | | | |
|---|---|---|---|---|---|---|
| PC8 | **Aggregate Tests:** | | | | | |
| a. | Aggregate Grading | 4 | test | R 245.00 | R 279.30 | |
| b. | Aggregate Crushing Value (ACV) | 15 | test | R 430.00 | R 490.20 | |
| c. | 10% Fines Aggregate Crushing Test (10% FACT) | 40-60 | test | R 980.00 | R 1 117.20 | |
| d. | Flakiness Index | 4, or included in PC8(a) | test | R 345.00 | R 393.30 | |
| e. | Average Least Dimension (ALD) | 4, or included in PC8(a) | test | R 385.00 | R 438.90 | |
| f. | Loose- or Compacted Bulk Density | 5 (Sand)/10 (Stone) | test | R 195.00 | R 222.30 | |
| g. | Apparent Relative Density (ARD) | 4 | test | R 200.00 | R 228.00 | |
| PC9 | **G1 Basecoarse Analyses:** | | | | | |
| a. | Sieve Analysis to 0.075mm (G1) | 5 | test | R 245.00 | | |
| b. | Atterberg Limits on <0.425mm and <0.075mm material | 5, or included in PC9(a) | 2 tests | R 400.00 | | |
| c. | Aggregate Crushing Value (ACV) | 20-30 | test | R 430.00 | | |
| d. | 10% Fines Aggregate Crushing Test (10% FACT); Wet & Dry | 80-120 | 2 tests | R 1 960.00 | | |
| e. | Falikiness Index (<26.5 >19 & <19 >13.2) | 5, or included in PC9(a) | 2 tests | R 690.00 | | |
| f. | Apparent Relative Density (ARD) | 5 | test | R 200.00 | | |
| | | | | R 3 925.00 | R 4 474.50 | |

## ASPHALT AND BITUMINOUS BINDERS

PC10 **Marshall Control Test**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | a. Marshall Control Tests: (7.02 and 7.07 on 3 prepared asphalt briquettes plus single 7.05 and ITS on 3 prepared asphalt briquettes) | | test | R | 1 376.00 | R | 1 568.64 |

## GEOTECHNICAL AND FOUNDATION TESTING : SOILS and MINING MATERIALS

| | | Minimum Material Required (kg) | | Unit Rate Excl. VAT | | Unit Rate Incl. VAT | |
|---|---|---|---|---|---|---|---|
| PC11 | **Void Ratio Determination (Bulk- and Relative Density):** | | | | | | |
| | a. Bulk density and moisture content of undisturbed sample | 1 | test | R | 215.00 | | |
| | b. Relative Density (Specific Gravity) | 0.2 | test | R | 225.00 | | |
| | | | | R | 440.00 | R | 501.60 |
| PC12 | **Complete Triaxial Compression Test on three specimens including Relative Density (Specific Gravity):** | | | | | | |
| | a. Undisturbed: Consolidated Undrained (CU) | Undisturbed Block: 0.3m x 0.3m x 0.2m; Shelby Tube: 0.4m; Disturbed: 5kg (excl. Moisture Density Relationship) | test | R | 6 490.00 | R | 7 398.60 |
| | b. Reconstituted: Consolidated Undrained (CU) | | test | R | 7 000.00 | R | 7 980.00 |
| | c. Undisturbed: Consolidated Drained (CD) | | test | R | 7 410.00 | R | 8 447.40 |
| | d. Reconstituted: Consolidated Drained (CD) | | test | R | 7 920.00 | R | 9 028.80 |
| | e. Undisturbed: Unconsolidated Undrained (UU) | | test | R | 2 445.00 | R | 2 787.30 |
| | f. Reconstituted: Unconsolidated Undrained (UU) | | test | R | 2 955.00 | R | 3 368.70 |
| PC13 | **Complete Direct Shear Test on three specimens including Relative Density (Specific Gravity):** | | | | | | |
| | a. Undisturbed: Drained (Slow) Test | (Refer to Triaxial test) | test | R | 2 735.00 | R | 3 117.90 |
| | b. Reconstituted: Drained (Slow) Test | (Refer to Triaxial test) | test | R | 3 245.00 | R | 3 699.30 |
| | (Quick Undrained tests will only be carried out on clay materials deemed suitable by the laboratory) | | | | | | |
| PC14 | **Consolidation & Swell Tests including Relative Density (Specific Gravity) but excluding consolidation time readings:** | | | | | | |
| | a. Standard Consolidation | Undisturbed Block: 0.2m x 0.2m x 0.2m; Shelby Tube: 0.2m; Disturbed: 2kg (excl. Moisture Density Relationship) | test | R | 1 505.00 | R | 1 715.70 |
| | b. Double Oedometer (NB! Undisturbed material only) | | test | R | 2 760.00 | R | 3 146.40 |
| | c. Collapse Potential (NB! Undisturbed material only) | | test | R | 1 145.00 | R | 1 305.30 |
| | d. Swelling Pressure | | test | R | 1 850.00 | R | 2 109.00 |
| | e. Free Swell | | test | R | 890.00 | R | 1 014.60 |
| PC15 | **USGA analyses on Golfcourse-, Sportsturf- and Turfgrass materials:** | | | | | | |
| | a. Sieve Analysis | 1 | test | R | 355.00 | | |
| | b. Porosity, Infiltration, Water Retention and Bulk Density | 1 | test | R | 1 525.00 | | |
| | c. Relative Density (Specific Gravity) | 0.2 | test | R | 225.00 | | |
| | | | | R | 2 105.00 | R | 2 399.70 |
| PC16 | **Permeability & Dispersivity Tests:** | | | | | | |
| | a. Permeability: Falling or Constant head | Refer to PC14 | test | R | 680.00 | R | 775.20 |
| | b. Permeability: Constant Head in Triaxial/Hydraulic cell | Refer to PC14 | test | R | 1 555.00 | R | 1 772.70 |
| | c. Dispersiveness: Pinhole Test: modified apparatus | 0.5 | test | R | 915.00 | R | 1 043.10 |
| | d. Dispersiveness: Crumb Test | 0.5 | test | R | 170.00 | R | 193.80 |
| | e. Dispersiveness: Double Hydrometer Analysis | 1 | test | R | 425.00 | R | 484.50 |
| | f. Dispersiveness: Chemical (SAR and ESP) | 1 | test | On request | | | |

**Note: Additional charges may be applicable for all Triaxial, Direct Shear, Consolidation/Swell-type and Permeability tests that exceed standard testing times (See items 8.20, 8.25 and 8.52).**

# Standard Items

## 2. PERSONNEL

| | | Test Method | Unit | Unit Rate Excl. VAT | | Unit Rate Incl. VAT | |
|---|---|---|---|---|---|---|---|
| **2.01** | Engineer/Technologist | | hour | R | 870.00 | R | 991.80 |
| **2.02** | Master Technician | | hour | R | 565.00 | R | 644.10 |
| **2.03** | Technician | | hour | R | 475.00 | R | 541.50 |
| **2.04** | Senior Technical Assistant | | hour | R | 380.00 | R | 433.20 |
| **2.05** | Technical Assistant | | hour | R | 290.00 | R | 330.60 |
| **2.06** | Senior Laboratory Assistant | | hour | R | 220.00 | R | 250.80 |
| **2.07** | Laboratory Assistant | | hour | R | 155.00 | R | 176.70 |
| **2.08** | Driver: Light and Medium Trucks | | hour | R | 190.00 | R | 216.60 |
| **2.09** | Casual Labourer | | day | R | 265.00 | R | 302.10 |
| **2.10** | Professional Services (Consultants, etc.) | | By arrangement | | | | |
| **2.11** | Overnight Accommodation and Subsistence Cost | | Cost + 10% | | | | |

## 3. TRANSPORT

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **3.01** | Passenger Vehicle | | km | R | 6.00 | R | 6.84 |
| **3.02** | Light Delivery Vehicle (1 ton) | | km | R | 5.50 | R | 6.27 |
| **3.03** | Four Wheel Drive Vehicle (1 ton) | | By arrangement | | | | |
| **3.04** | Medium Truck (4 tons) | | By arrangement | | | | |
| **3.05** | Air, Rail and Road Transport | | Cost + 10% | | | | |

## 4. COMPACTION CONTROL

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **4.01** | Field Density by sand replacement method | TMH1:A10(a) | test | R | 265.00 | R | 302.10 |
| **4.02** | Field Density by nuclear method: including Moisture Content by oven | TMH1:A10(b)C | test | R | 190.00 | R | 216.60 |
| **4.03** | Field Density by rondavel method | | By arrangement | | | | |
| **4.04** | Extra on above for establishment of personnel on site from the laboratory: including personnel travelling time and transport charges | | km | R | 9.90 | R | 11.29 |
| **4.05** | Extra on above for personnel standing time on site and excavating trial | | Personnel rates as in 2 | | | | |

**Note: A minimum charge of R 760 (excluding 14% VAT) plus the relevant establishment charge will be imposed on an individual compaction control site visit**

## 5. CONSTRUCTION MATERIALS : SOIL

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **5.01** | Road Indicator: Sieve Analysis plus Atterberg Limits (5.03 plus 5.07) | | test | R | 425.00 | R | 484.50 |
| **5.02** | Foundation Indicator: Sieve and Hydrometer Analysis plus Atterberg Limits (5.06 plus 5.07) | | test | R | 500.00 | R | 570.00 |
| **5.03** | Sieve Analysis to 0,075 mm fraction | TMH1:A1,A5 | test | R | 275.00 | R | 313.50 |
| **5.04** | Sieve Analysis to 0,045 mm fraction | TMH1:A1,A5 | test | R | 355.00 | R | 404.70 |
| **5.05** | Hydrometer Analysis to 2 microns | ASTM:D422 | test | R | 155.00 | R | 176.70 |
| **5.06** | Sieve and Hydrometer Analysis to 2 microns | | test | R | 395.00 | R | 450.30 |
| **5.07** | Atterberg Limits on < 0,425 mm or < 0.075 mm material | TMH1:A2,A3,A4 | test | R | 200.00 | R | 228.00 |

| | | Test Method | Unit | Unit Rate Excl. VAT | Unit Rate Incl. VAT |
|---|---|---|---|---|---|
| 5.08 | Extra on 5.05 and 5.07 for preparation of < 0.425mm or < 0.075 mm material | TMH1:A1 | test | R 145.00 | R 165.30 |
| 5.09 | Extra on 5.07 for treating, curing and preparation of < 0.425 mm or < 0.075 mm material | | test | R 210.00 | R 239.40 |
| 5.10 | Extra on 5.01, 5.02, 5.03, 5.04 and 5.06 for Macro Sieve Analysis on bulk sample | | test | R 175.00 | R 199.50 |
| 5.11 | Moisture Content of sample as delivered to the laboratory | TMH A17 : 1979 | test | R 55.00 | R 62.70 |
| 5.12 | Maximum and Minimum Density of cohesionless material | TMH1:A11T | test | R 700.00 | R 798.00 |
| 5.13 | Compactibility Factor (SABS 0120) | SABS 0120 | test | R 275.00 | R 313.50 |
| 5.14 | Moisture Density Relationship: Modified AASHTO effort: treated and untreated | TMH1:A7 | test | R 465.00 | R 530.10 |
| 5.15 | Moisture Density Relationship: untreated material: Proctor effort | BS1377 Part 4 | test | R 465.00 | R 530.10 |
| 5.16 | Moisture Density Relationship: Texas Triaxial Test | ASTM D3397-81 | By arrangement | | |
| 5.17 | CBR test: single untreated specimen: excluding Moisture Density Relationship | TMH1:A8 | specimen | R 175.00 | R 199.50 |
| 5.18 | CBR test: untreated specimens at 3 compactive efforts: excluding Moisture Density Relationship | TMH1:A8 | set | R 465.00 | R 530.10 |
| 5.19 | Complete CBR test: untreated material (5.14 plus 5.18) | TMH1:A8 | test | R 930.00 | R 1 060.20 |
| 5.20 | UCS test: single treated specimen: excluding treated Moisture Density Relationship | TMH1:A14 | specimen | R 180.00 | R 205.20 |
| 5.21 | UCS test: treated specimens at 2 compactive efforts in duplicate: excluding treated Moisture Density Relationship | TMH1:A14 | set | R 645.00 | R 735.30 |
| 5.22 | Complete UCS Test: treated material (5.14 plus 5.21) | TMH1:A14 | test | R 1 110.00 | R 1 265.40 |
| 5.23 | Indirect Tensile Strength: single treated specimen: excluding Moisture Density Relationship | TMH1:A16T | specimen | R 180.00 | R 205.20 |
| 5.24 | Texas Triaxial Test: 7 Mohr circles: excluding Moisture Density Relationships | ASTM D3397-81 | By arrangement | | |
| 5.25 | Wet/Dry Durability Test: treated material: Moisture Density Relationship: Proctor effort (5.15) | TMH1:A19 | test | R 555.00 | R 632.70 |
| 5.26 | Wet/Dry Durability Test: compaction and curing of specimen: excluding treated Moisture Density Relationship | TMH1:A19 | specimen | R 155.00 | R 176.70 |
| 5.27 | Wet/Dry Durability Test: Wet/Dry cycle | TMH1:A19 | cycle | R 85.00 | R 96.90 |
| 5.28 | Wet/Dry Durability Test: Brushing cycle: mass loss only | TMH1:A19 | cycle | R 100.00 | R 114.00 |
| 5.29 | Wet/Dry Durability Test: Brushing cycle: mass loss and volume change | | cycle | R 110.00 | R 125.40 |
| 5.30 | Complete Texas Ball Mill Test | Tex-116-E | test | R 2 640.00 | R 3 009.60 |
| 5.31 | Durability Mill Index | CSIR RP/31 | test | R 2 690.00 | R 3 066.60 |
| 5.32 | Initial Consumption of Lime (pH method) | TMH1:A20 | test | R 555.00 | R 632.70 |
| 5.33 | pH value of soil suspension | TMH1:A20 | test | R 105.00 | R 119.70 |
| 5.34 | Conductivity of saturated soil paste and water | TMH1:A21T | test | R 160.00 | R 182.40 |
| 5.35 | Content of chemical agent of treated material by back titration method | TMH1:A15(d) | specimen | R 225.00 | R 256.50 |
| 5.36 | Extra on 5.35 for calibration curve | TMH1:A15(d) | curve | R 900.00 | R 1 026.00 |
| | **6. CONSTRUCTION MATERIALS : AGGREGATES** | | | | |
| 6.01 | Aggregate Grading: including Fineness Modulus and Dust Content | TMH1:B4,B13 | test | R 245.00 | R 279.30 |
| 6.02 | Aggregate Crushing Value: 400kN (excluding crushing of sample through jaw crusher) | TMH1:B1 | test | R 430.00 | R 490.20 |
| 6.03 | 10 per cent Fines Aggregate Crushing Test (excluding crushing of sample through jaw crusher) | TMH1:B2 | test | R 980.00 | R 1 117.20 |
| 6.04 | Flakiness | TMH1:B3T | test | R 345.00 | R 393.30 |
| 6.05 | Average Least Dimension | TMH1:B18 | test | R 385.00 | R 438.90 |
| 6.06 | Bulk Density on aggregates | TMH1:B9 | test | R 195.00 | R 222.30 |
| 6.07 | Dry Bulk Relative Density on > 4,75 mm aggregates | TMH1:B14 | test | R 255.00 | R 290.70 |
| 6.08 | Dry Bulk Relative Density on < 4,75 mm aggregates | TMH1:B15 | test | R 345.00 | R 393.30 |
| 6.09 | Apparent Relative Density on > 4,75 mm aggregates | TMH1:B14 | test | R 200.00 | R 228.00 |
| 6.10 | Apparent Relative Density on < 4,75 mm aggregates | TMH1:B15 | test | R 200.00 | R 228.00 |
| 6.11 | Dry Bulk, Apparent Relative Density together with Water Absorption on > 4,75 mm aggregates | TMH1:B14 | test | R 255.00 | R 290.70 |
| 6.12 | Dry Bulk, Apparent Relative Density together with Water Absorption on < 4,75 mm aggregates | TMH1:B15 | test | R 340.00 | R 387.60 |
| 6.13 | Apparent Relative Density | COLTO:8108(b) | test | R 200.00 | R 228.00 |
| 6.14 | Water Demand of fine aggregate | SABS SM 835:1994 | test | R 575.00 | R 655.50 |
| 6.15 | Bulking of fine aggregates | SABS SM 856:1976 | curve | R 475.00 | R 541.50 |
| 6.16 | Soundness Test: Sodium/Magnesium Sulphate: 5 cycles per aggregate fraction | SABS SM 839:2002 | test | R 505.00 | R 575.70 |
| 6.17 | Soundness Test: Extra for each additional cycle | | cycle | R 110.00 | R 125.40 |
| 6.18 | Soundness Test: Ethylene Glycol: 20 days visual assessment | | test | R 420.00 | R 478.80 |
| 6.19 | Soundness Test: Ethylene Glycol: 28 days sieve and weighing method | | test | R 745.00 | R 849.30 |
| 6.20 | Organic Impurities (standard colour test) | TMH1:B6 | test | R 230.00 | R 262.20 |
| 6.21 | Shrinkage Properties of concrete aggregate | TMH1:B10 | test | R 2 295.00 | R 2 616.30 |
| 6.22 | Soluble Deleterious Material in fine aggregate | TMH1:B12 | test | R 1 415.00 | R 1 613.10 |
| 6.23 | Sand Equivalent | TMH1:B19 | test | R 365.00 | R 416.10 |
| 6.24 | Presence of Sugar in fine aggregates | SABS SM 833:1994 | By arrangement | | |
| 6.25 | Total Water-Soluble Salts | TMH1:B16T | By arrangement | | |
| 6.26 | Water-Soluble Sulphates | TMH1:B17T | By arrangement | | |
| 6.27 | Total Water-Soluble Salts and Sulphates | TMH1:B16T,B17T | By arrangement | | |
| 6.28 | Alkali Reactivity | SABS SM 1245:200 | By arrangement | | |
| 6.29 | Treton Impact Value | TMH1:B7 | By arrangement | | |
| 6.30 | Light Materials Content | SABS SM 837:2002 | By arrangement | | |
| 6.31 | Polished Stone Value | SABS SM 848:2002 | By arrangement | | |
| 6.32 | Los Angeles Abrasion Test | ASTM C131-96 | By arrangement | | |
| 6.33 | Crushing of samples with mechanical jaw crusher: <10 kg | | No charge | | |
| 6.34 | Crushing of samples with mechanical jaw crusher: 10 kg to 50 kg | | lump sum | R 190.00 | R 216.60 |
| 6.35 | Crushing of samples with mechanical jaw crusher: >50 kg | | 10 kg | R 50.00 | R 57.00 |
| | **7. ASPHALT AND BITUMINOUS BINDERS** | | | | |

| | | Test Method | Unit | Unit Rate Excl. VAT | Unit Rate Incl. VAT |
|---|---|---|---|---|---|
| **7.01** | Marshall Mix Design: Stability and Flow plus Bulk Relative Density and Voids Content on asphalt briquettes prepared at four (4) binder contents in triplicate | TMH1:C1 | design | R 6 415.00 | R 7 313.10 |
| **7.02** | Marshall Stability and Flow: excluding preparation of asphalt briquette | TMH1:C2 | briq | R 105.00 | R 119.70 |
| **7.03** | Immersion Index: set of 6 briquettes (excluding Bulk Relative Density) | TMH1:C5 | test | R 780.00 | R 889.20 |
| **7.04** | Binder Content | TMH1:C7 (b) | test | R 295.00 | R 336.30 |
| **7.05** | Binder Content and Aggregate Grading (6.01 plus 7.04) | | test | R 505.00 | R 575.70 |
| **7.06** | Bulk Relative Density on asphalt briquette or core | TMH1:C3 | test | R 110.00 | R 125.40 |
| **7.07** | Bulk Relative Density and Voids Content on asphalt briquette or core | TMH1:C3 | test | R 350.00 | R 399.00 |
| **7.08** | Maximum Theoretical Relative Density: Rice's method | TMH1:C4 (a) | test | R 250.00 | R 285.00 |
| **7.09** | Indirect Tensile Strength on asphalt briquette or core | | briq | R 142.00 | R 161.88 |
| **7.10** | Creep Modulus on asphalt briquettes: Static | TMH1:C6T | briq | R 982.00 | R 1 119.48 |
| **7.11** | Creep Modulus on asphalt briquettes: Dynamic | | By arrangement | | |
| **7.12** | Extra for preparation of briquette with asphalt: Marshall method | TMH1:C2 | briq | R 150.00 | R 171.00 |
| **7.13** | Extra for preparation of briquette with asphalt: LAMBS method | | briq | R 200.00 | R 228.00 |
| **7.14** | Extra for preparation of briquette from trial mix: Marshall method | TMH1:C2 | briq | R 195.00 | R 222.30 |
| **7.15** | Extra for preparation of briquette from trial mix: LAMBS method | | briq | R 295.00 | R 336.30 |
| **7.16** | Marshall Control Tests: (7.02 and 7.07 on 4 prepared asphalt briquettes plus single 7.05) | | test | R 1 280.00 | R 1 459.20 |
| **7.17** | Extra for preparation of asphalt cores for testing | | core | R 55.00 | R 62.70 |
| **7.18** | Moisture in asphalt: oven drying | TMH1:C11 | test | R 65.00 | R 74.10 |
| **7.19** | Recovery of Binder from asphalt | ABSON | test | R 695.00 | R 792.30 |
| **7.20** | Bitumen Penetration | ASTM D5 | test | R 260.00 | R 296.40 |
| **7.21** | Binder Absorption: excluding apparent relative density of binder | TMH1:C4 (b) | test | R 510.00 | R 581.40 |
| **7.22** | Binder Adhesion to aggregates: Riedel & Weber test | TMH1:B11 | test | R 592.00 | R 674.88 |
| **7.23** | Ductility of TMH1:Bitumen | TG1 MB- 4 | test | R 700.00 | R 798.00 |
| **7.24** | Viscosity of Bitumen | TG1 MB- 18 | By arrangement | | |
| **7.25** | Softening Point of Bitumen Binders: Ring and Ball method | ASTM D36 | test | R 355.00 | R 404.70 |
| **7.26** | Ball Penetration and Resilience of Bitumen-Rubber Blends | TG1 MB-10 | test | R 310.00 | R 353.40 |
| **7.27** | Compression Recovery of Bitumen-Rubber Blends | TG1 MB-11 | test | R 340.00 | R 387.60 |
| **7.28** | Flow Test for Bitumen-Rubber Blends | TG1 MB-12 | test | R 265.00 | R 302.10 |
| **7.29** | Grading of Rubber Crumbs used in Bitumen-Rubber Blends | TG1 MB- 14 | test | R 270.00 | R 307.80 |
| **7.30** | Resilience of Rubber Crumbs used in Bitumen-Rubber Blends | TG1 MB- 15 | test | R 275.00 | R 313.50 |
| **7.31** | Bulk Density of Rubber Crumbs used in Bitumen-Rubber Blends | TG1 MB- 16 | test | R 255.00 | R 290.70 |
| **7.32** | Bitumen-Rubber Design | | By arrangement | | |
| **7.33** | Slurry Design (Hot-Mix Marshall) | TMH C1,C2,C3,C4a, | Design | R 9 230.00 | ######### |
| | **DRILLING OF ASPHALT CORES** | | | | |
| **7.34** | Drilling 100mm diameter asphalt cores: thickness < 50mm | | core | R 220.00 | R 250.80 |
| **7.35** | Drilling 100mm diameter asphalt cores: thickness 50mm and 100mm | | core | R 310.00 | R 353.40 |
| **7.36** | Drilling 100mm diameter asphalt cores: thickness 100mm and 200mm | | core | R 380.00 | R 433.20 |
| **7.37** | Extra on above for establishment of personnel on site from the laboratory: including personnel travelling time and transport charges | | km | R 11.00 | R 12.54 |
| **7.38** | Extra on above for personnel standing time on site | | Personnel rates as in 2 | | |
| | **8. GEOTECHNICAL AND FOUNDATION TESTING : SOILS and MINING MATERIALS** | | | | |
| **8.01** | Relative Density (Specific Gravity) | TMH1:A12T | test | R 225.00 | R 256.50 |
| **8.02** | Bulk Density and Moisture Content of undisturbed sample | BS 1377 Part 2 | test | R 215.00 | R 245.10 |
| **8.03** | Void Ratio Determination (8.01 plus 8.02) | | test | R 440.00 | R 501.60 |
| **8.04** | Settling Test on Tailings: Undrained | | test | R 325.00 | R 370.50 |
| **8.05** | Settling Test on Tailings: Drained (Permeability measurements on special request and subject to additional charges) | | test | R 525.00 | R 598.50 |
| **8.06** | Particle Settling Velocity per sieve fraction | | test | R 245.00 | R 279.30 |
| **8.53** | Air-Drying Evaporation test | Coffey Geotechnics | test | R 2 365.00 | R 2 696.10 |
| **8.07** | Unconfined Compression Test on soil sample : failure load only : including preparation | | test | R 430.00 | R 490.20 |
| **8.08** | Unconfined Compression Test on soil sample with vertical strain readings: including preparation | | test | R 630.00 | R 718.20 |
| | **TRIAXIAL TESTS (38 mm, 50 mm and 76 mm diameter samples)** | | | | |
| **8.09** | **Complete Consolidated Undrained Test on three specimens** including backpressure saturation, consolidation time readings and shearing at the appropriate rate while taking pore water pressure measurements. | BS 1377 Part 8 | test (3 Mohr circles) | R 6 265.00 | R 7 142.10 |
| **8.10** | **Complete Consolidated Drained Test on three specimens** including backpressure saturation, consolidation time readings and shearing at the appropriate rate while taking volume change measurements. | BS 1377 Part 8 | test (3 Mohr circles) | R 7 185.00 | R 8 190.90 |
| **8.11** | **Complete Unconsolidated Undrained Test on three specimens** | BS 1377 Part 7 | test (3 Mohr circles) | R 2 220.00 | R 2 530.80 |
| **8.12** | **Complete Unconsolidated Undrained Test** on one specimen **(three multistage cycles)** | BS 1377 Part 7 | test (3 Mohr circles) | R 1 685.00 | R 1 920.90 |
| **8.13** | Consolidated Undrained Test including backpressure saturation, consolidation time readings and shearing at the appropriate rate while taking pore water pressure measurements. | BS 1377 Part 8 | specimen (1 Mohr circle) | R 2 015.00 | R 2 297.10 |
| **8.14** | Consolidated Drained Test including backpressure saturation, consolidation time readings and shearing at the appropriate rate while taking volume change measurements. | BS 1377 Part 8 | specimen (1 Mohr circle) | R 2 325.00 | R 2 650.50 |
| **8.15** | Unconsolidated Undrained Test | BS 1377 Part 7 | specimen (1 Mohr circle) | R 680.00 | R 775.20 |
| **8.16** | Extra on 8.13 and 8.14 for additional stage of testing same specimen under new cell pressure (multistage cycle), including consolidation time readings and PWP/Volume change measurements. | KH Head | specimen (1 Mohr circle) | R 2 325.00 | R 2 650.50 |
| **8.17** | Extra on above for additional loading/unloading cycles | | cycle | R 495.00 | R 564.30 |
| **8.18** | Ko test in Triaxial cell | | By arrangement | | |
| **8.19** | Ansiotropic Consolitation in Triaxial cell | | By arrangement | | |
| **8.20** | Extra on 8.09, 8.10, 8.13, 8.14 and 8.16 for specimens/cycles requiring more than eight (8) days to saturate, consolidate and fail. | | specimen-day | R 290.00 | R 330.60 |

| | | Test Method | Unit | Unit Rate Excl. VAT | Unit Rate Incl. VAT |
|---|---|---|---|---|---|
| 8.21 | Extra on all requests to prepare and submit shear/consolidation plot data in electronic format. | | specimen/cycle | R 115.00 | R 131.10 |
| | **Note: All tests exclude the Specific Gravity (8.01), as well as reconstituting test specimens from disturbed samples to specific requirements (8.45)** | | | | |
| | **DIRECT SHEAR TESTS : SHEAR BOX (60mm diameter samples)** | | | | |
| 8.22 | Complete Drained Test on three specimens including consolidation time readings and shearing at the appropriate rate | BS 1377 Part 7 | test | R 2 510.00 | R 2 861.40 |
| 8.23 | Drained Test on one specimen including consolidation time readings and shearing at the appropriate rate | BS 1377 Part 7 | specimen | R 910.00 | R 1 037.40 |
| 8.24 | Extra on 8.22 and 8.23 for residual strength measurement | | specimen-cycle | R 520.00 | R 592.80 |
| 8.25 | Extra on 8.22 and 8.23 for specimens/cycles requiring more than three (3) days to saturate, consolidate and fail. (Quick Undrained tests will only be carried out on clay materials deemed suitable by the laboratory) | | specimen-day | R 405.00 | R 461.70 |
| | **Note: All tests exclude the Specific Gravity (8.01), as well as reconstituting test specimens from disturbed samples to specific requirements (8.45)** | | | | |
| | **CONSOLIDATION AND SWELL TESTS (50mm, 60mm, 70mm and 76mm diameter samples)** | | | | |
| 8.26 | Standard Consolidation Test with a single loading cycle (seven load increments) plus single unloading cycle (three load decrements) | BS 1377 Part 5 | test | R 1 280.00 | R 1 459.20 |
| 8.27 | Double Oedometer Test (8.26 at moisture content as delivered to the laboratory plus saturated test) | | test | R 2 535.00 | R 2 889.90 |
| 8.28 | Collapse Potential Rapid Test with a single loading cycle (5 load increments; one saturated) plus single unloading cycle (2 load decrements) | BS 1377 Part 5 | test | R 920.00 | R 1 048.80 |
| 8.29 | Swelling Pressure (Automated Consolidometer) | BS 1377 Part 5 | test | R 1 625.00 | R 1 852.50 |
| 8.30 | Free Swell Test at 10 kPa | BS 1377 Part 5 | test | R 665.00 | R 758.10 |
| 8.31 | Brackley Swell Test: including 2 specimens and preparation | | test | R 1 315.00 | R 1 499.10 |
| 8.32 | Extra on 8.26 to 8.31 for taking consolidation time readings by hand | BS 1377 Part 5 | load | R 345.00 | R 393.30 |
| 8.33 | Extra on 8.26 to 8.31 for taking consolidation time readings with logging equipment (subject to availability) | BS 1377 Part 5 | load | R 70.00 | R 79.80 |
| 8.34 | Extra on 8.26 to 8.28 for additional load increment/unload decrement | | load | R 175.00 | R 199.50 |
| 8.35 | Hydrostatic Consolidation in Triaxial/Hydraulic cell including, saturation, seven (σ'3) stress increments and three stress decrements with volume change- and pore water pressure measurements. | | By arrangement | | |
| 8.36 | Collapse Potential in Triaxial cell: single loading cycle (5 load increments; one saturated) plus single unloading cycle (2 load decrements) | | By arrangement | | |
| 8.37 | Swelling Pressure (Triaxial cell) | | By arrangement | | |
| 8.52 | Extra on all consolidation-type tests for consolidation cycles exceeding 24 hours. | | load | R 115.00 | |
| | **Note: All tests exclude the Specific Gravity (8.01), taking of consolidation time readings (8.32 or 8.33), as well as reconstituting test specimens from disturbed samples to specific requirements (8.45)** | | | | |
| | **PERMEABILITY AND DISPERSIVE TESTS** | | | | |
| 8.38 | Permeability: falling or constant head | | test | R 680.00 | R 775.20 |
| 8.39 | Permeability: constant head in triaxial cell (Rate 8.20 applicable for test durations exceeding 3 days) | ASTM D5084-90 | test | R 1 555.00 | R 1 772.70 |
| 8.40 | Extra on 8.33 for extended permeability testing on geofabrics | | day | R 350.00 | R 399.00 |
| 8.41 | Dispersiveness: Pinhole Test: modified apparatus | BS 1377 Part 5 | test | R 915.00 | R 1 043.10 |
| 8.42 | Dispersiveness: Crumb Test | BS 1377 Part 5 | test | R 170.00 | R 193.80 |
| 8.43 | Dispersiveness: Double Hydrometer Analysis | BS 1377 Part 5 | test | R 425.00 | R 484.50 |
| 8.44 | Dispersiveness: Chemical (SAR and ESP) | | By arrangement | | |
| 8.53 | Dispersiveness: Emerson Class | | | R 335.00 | R 381.90 |
| | **TEST SAMPLE RECONSTITUTION** | | | | |
| 8.45 | Extra on compression, triaxial, shear box, swell, consolidation or permeability tests for sample compaction | | specimen | R 170.00 | R 193.80 |
| | **USGA ANALYSES ON GOLFCOURSE-, SPORTSTURF- AND TURFGRASS ROOT ZONE MATERIALS** | | | | |
| 8.46 | Sieve Analysis to 0.045 mm | TMH1:A1,A5 | test | R 355.00 | R 404.70 |
| 8.47 | Extra over on 8.47 for Hydrometer Analysis to 2 microns if material passing 0.045 mm > 5% | ASTM:D422 | test | R 155.00 | R 176.70 |
| 8.48 | Porosity, Infiltration, Water Retention and Bulk Density (excluding Specific Gravity; 8.01) | ASTM:F1815-06 | test | R 1 525.00 | R 1 738.50 |
| 8.49 | Water Release Curve at 5 tensions (depths) to determine the minimum depth of a fairway capping sand | ASTM:F1815-06 | curve | R 1 135.00 | R 1 293.90 |
| 8.50 | Trial Mix including preliminary tests on two materials, mixed to a specified ratio and compared to the latest USGA Reccommendations | | mix | R 2 460.00 | R 2 804.40 |
| 8.51 | Extra on 8.50 for testing an additional mix ratio with the same materials | | mix | R 2 105.00 | R 2 399.70 |
| | **9. FOUNDATION TESTING : ROCK** | | | | |
| 9.01 | Relative Density (Specific Gravity) | | test | R 210.00 | R 239.40 |
| 9.02 | Unconfined Compression Test on rock core: failure load only (excluding preparation) | | By arrangement | | |
| 9.03 | Unconfined Compression Test on rock core with vertical strain readings | | By arrangement | | |
| 9.04 | Unconfined Compression Test on rock core with vertical and horizontal strain readings | | By arrangement | | |
| 9.05 | Duncan Free Swell: including preparation | | test | R 540.00 | R 615.60 |
| 9.06 | Extra on 9.05 for time readings | | test | R 225.00 | R 256.50 |
| 9.07 | Point Load Test on rock | ASTM D5331-95 | test | R 280.00 | R 319.20 |
| 9.08 | Brazilian Indirect Tensile Strength Test on rock core | | By arrangement | | |
| 9.09 | Slake Durability Test in water: 5 cycles | | test | R 860.00 | R 980.40 |
| 9.10 | Slake Durability Test in Ethylene Glycol: 5 cycles | | test | R 985.00 | R 1 122.90 |

| | | Test Method | Unit | Unit Rate Excl. VAT | Unit Rate Incl. VAT |
|---|---|---|---|---|---|
| **9.11** | Extra on 9.09 and 9.10 for each additional cycle | | cycle | R 100.00 | R 114.00 |
| **9.12** | Triaxial Test on rock core | | By arrangement | | |
| **9.13** | Direct Shear Test on rock core or joint surfaces | | By arrangement | | |
| **9.14** | Preparation of rock core for testing | | Cost + 10% | | |
| **9.15** | Storage of core box: First 6 months or portion thereof | | box | R 280.00 | R 319.20 |
| **9.16** | Storage of core box: Each subsequent 6 months or part thereof | | box | R 155.00 | R 176.70 |
| | **Note: Specific requirements such as recycling during test or photography of specimens are negotiable** | | | | |

## 10. CONCRETE

| | | | | | |
|---|---|---|---|---|---|
| **10.01** | Cube Compression Test: curing and testing of cubes delivered to the laboratory | TMH1:D1 | cube | R 50.00 | R 57.00 |
| **10.02** | Extra on 10.01 for casting a set of six cubes on site | | minimum of 6 cubes | R 455.00 | R 518.70 |
| **10.03** | Extra on 10.01 for establishment of personnel on site from the laboratory for each site visit: including personnel travelling time and transport charges | | km | R 9.90 | R 11.29 |
| **10.04** | Extra on 10.02 and 10.03 for personnel standing time on site | | Personnel rates as in 2 | | |
| **10.05** | Extra on 10.02 and 10.03 for Slump Test on freshly mixed concrete | SABS 862-1:1994 | test | R 105.00 | R 119.70 |
| **10.06** | Cylinder Compression Test: curing and testing of cylinders or cores delivered to the laboratory (excluding preparation) | SABS 865:1994 | cylinder | R 145.00 | R 165.30 |
| **10.07** | Extra on 10.06 for preparation of cylinders or cores for testing | SABS 865:1994 | cylinder | R 265.00 | R 302.10 |
| **10.08** | Indirect Tensile Strength (Brazilian) Test on cylinders or cores | | cylinder | R 270.00 | R 307.80 |
| **10.09** | Concrete Cube Trial Mix: including preparation of trial mix, slump test, casting, curing and compression testing of three cubes | | mix | R 800.00 | R 912.00 |
| **10.10** | Complete Mix Design including preliminary aggregate tests, preparation and adjustment of trail mixes, slump test, casting, curing and compression testing of six cubes (excluding other special requirements) | | mix | R 3 550.00 | R 4 047.00 |
| **10.11** | Extra on 10.10 for additional mix design using the same aggregates | | mix | R 1 570.00 | R 1 789.80 |
| **10.12** | Extra on 10.02, 10.09 and 10.10 for the casting of each additional set of three cubes | | mix | R 350.00 | R 399.00 |
| **10.13** | Flexural Test: casting, curing and testing of beams | | beam | R 270.00 | R 307.80 |
| **10.14** | Extra on above for supply of materials by the laboratory | | By arrangement | | |
| **10.15** | Schmidt Hammer Tests | | By arrangement | | |

## DRILLING OF CONCRETE CORES

| | | | | | |
|---|---|---|---|---|---|
| **10.16** | Setting-up at each position for vertical drilling | | hole | R 295.00 | R 336.30 |
| **10.17** | Setting-up at each position for inclined or horizontal drilling | | hole | R 365.00 | R 416.10 |
| **10.18** | Drilling cores with diameters of 100mm and less | SABS 865:1994 | metre | R 2 120.00 | R 2 416.80 |
| **10.19** | Drilling cores with diameters between 100mm and 150mm | SABS 865:1994 | metre | R 2 385.00 | R 2 718.90 |
| **10.20** | Extra on 10.18 and 10.19 for drilling through reinforcing bars | | mm | R 12.20 | R 13.91 |
| **10.21** | Extra on above for the supply of electrical power by the laboratory (per day or part thereof) | | day | R 450.00 | R 513.00 |
| **10.22** | Extra on above for establishment of personnel on site from the laboratory: including personnel travelling time and transport charges | | km | R 9.90 | R 11.29 |
| **10.23** | Extra on above for personnel standing time on site | | Personnel rates as in 2 | | |

## BRICKS

| | | | | | |
|---|---|---|---|---|---|
| **10.24** | Compressive Strength of Bricks : Burned Clay / Concrete (excluding preparation) | SABS 227:2002 / 1215-1984 | specimen | R 105.00 | R 119.70 |
| **10.25** | Extra on 10.24 for preparation of bricks for testing | SABS 227:2002 / 1215-1984 | specimen | R 105.00 | R 119.70 |
| **10.26** | Efflorescence | SABS 227:2002 | specimen | R 105.00 | R 119.70 |
| **10.27** | Bulk Density | | specimen | R 120.00 | R 136.80 |
| **10.28** | Water Absorption: 24 hour immersion test | SABS 227:2002 | specimen | R 120.00 | R 136.80 |

## CONCRETE BUILDING BLOCKS

| | | | | | |
|---|---|---|---|---|---|
| **10.29** | Compressive Strength of Building Blocks (excluding preparation) | SABS 1215-1990 | specimen | R 155.00 | R 176.70 |
| **10.30** | Extra on 10.29 for preparation of blocks for testing | SABS 1215-1990 | specimen | R 435.00 | R 495.90 |
| **10.31** | Transverse Strength | | specimen | R 155.00 | R 176.70 |

## 11. PETROGRAPHIC ANALYSES AND CHEMICAL TESTS

| | | | |
|---|---|---|---|
| **11.01** | Petrographic analyses | | By arrangement |
| **11.02** | Exchange Properties of soil | | By arrangement |
| **11.03** | Corrosive Properties of soil : water extracts | | By arrangement |
| **11.04** | Atomic Absorption Spectrometer analyses | | By arrangement |
| **11.05** | X-Ray Emission Scans (XRD/XRF) | | By arrangement |
| | **Note: Specific chemical tests are negotiable** | | |

## 12. SITE INVESTIGATION

| | | | | | |
|---|---|---|---|---|---|
| **12.01** | Site Investigations and Inspections | | By arrangement | | |
| **12.02** | Drilling Diamond, Large Diameter Auger or Percussion Boreholes | | By arrangement | | |
| **12.03** | Excavating Trial Holes with mechanical excavator | | By arrangement | | |
| **12.04** | Excavating Trial Holes by hand digging: personnel travelling time from the laboratory, digging and standing time on site | | Personnel rates as in 2 | | |
| **12.05** | Extra on 12.04 for the supply of electrical breaker with power generator including fuel (per day or part thereof) | | day | R 755.00 | R 860.70 |
| **12.06** | Taking of undisturbed or disturbed samples: personnel travelling time from the laboratory, sampling and standing time on site | TMH 5 | Personnel rates as in 2 | | |
| **12.07** | Extra on 12.03 and 12.04 for the supply of backfill to reinstate trial holes | | By arrangement | | |
| **12.08** | Extra on 12.03, 12.04 and 12.07 for the supply of round-foot-trench-compactor including fuel (per day or part thereof) | | day | R 485.00 | R 552.90 |
| **12.09** | Extra on above for transport from the laboratory | | Transport rates as in 3 | | |
| **12.10** | Full factual report on site observations and laboratory test results | | By arrangement | | |
| **12.11** | Supply and installation of standpipes, piezometers or other related instrumentation | | By arrangement | | |

| | | Test Method | Unit | Unit Rate Excl. VAT | Unit Rate Incl. VAT |
|---|---|---|---|---|---|
| **12.12** | Seismic surveys | | By arrangement | | |
| | **MECHANICAL EXCAVATOR** | | | | |
| **12.13** | Mechanical Excavator (Tractor-Loader-Backactor): including operator and fuel | | By arrangement | | |
| **12.14** | Extra on 12.13 for the establishment of the Mechanical Excavator on site | | By arrangement | | |
| | **IN SITU PLATE JACKING TESTS** | | | | |
| **12.15** | Plate Cross-Jacking Apparatus: per day or part thereof | | day | R 990.00 | R 1 128.60 |
| **12.16** | Full day testing (typically 3-5 positions): per day or part thereof | | day | R 7 085.00 | R 8 076.90 |
| **12.17** | Extra on 12.16 for processing test data at the laboratory | | position | R 220.00 | R 250.80 |
| **12.18** | Establishment of Senior/Master Technician | | km | R 5.50 | R 6.27 |
| | **Note: Customer to supply and arrange suitable counterwight (Vertical loading), unless agreed otherwise. The digging and reinstatement of Test Pits, if required, will be subject to additional charges.** | | | | |
| | **IN SITU PRESSUREMETER TESTS** | | | | |
| **12.19** | Pressuremeter Tests | | By arrangement | | |
| | **IN SITU PERCOLATION TESTS** | | | | |
| **12.20** | Percolation Tests | | Personnel rates as in 2 | | |
| **12.21** | Extra on 12.20 for personnel travelling from laboratory, testing, processing test date and standing time on site | | Personnel rates as in 2 | | |
| **12.22** | Extra on 12.21 for transport from the laboratory | | Transport rates as in 3 | | |
| | **DYNAMIC CONE PENETROMETER TESTS** | | | | |
| **12.23** | Dynamic Cone Penetrometer Tests: per metre or part thereof (maximum | TMH 6 | metre | R 205.00 | R 233.70 |
| **12.24** | Extra on above for establishment of personnel on site from laboratory: | | km | R 9.90 | R 11.29 |
| **12.25** | Extra on above for personnel standing time on site and excavating trial holes | | Personnel rates as in 2 | | |
| **12.26** | Extra on 12.23 for processing penetration data with CSIR program (Version 5.0) | | test | R 100.00 | R 114.00 |
| | **Note: A minimum charge of R 760 (excluding 14% VAT) plus the relevant establishment charge will be imposed on a single site visit to perform dynamic cone penetrometer tests.** | | | | |
| | **ROAD SURVEILLANCE SERVICES** | | | | |
| **12.27** | Deflection Tests: Falling Weight Deflectrometer | | By arrangement | | |
| **12.28** | Skid Resistance Measurements: Griptester | | By arrangement | | |
| **12.29** | Skid Resistance Measurements: Portable Pendulum | | By arrangement | | |
| **12.30** | Longitudinal Profiling and Roughness: High Speed Laser | | By arrangement | | |
| **12.31** | Longitudinal Profiling and Roughness: Walking Profiler | | By arrangement | | |
| **12.32** | Transverse Profiling: rut measurements | | By arrangement | | |
| **12.33** | Texture Depth by sand patch method | TMH 6 ST1: 1984 | By arrangement | | |
| **12.34** | Ball Penetration Tests | TMH 6 | By arrangement | | |
| | **13. MONITORING WATER SUPPLY NETWORKS** | | | | |
| **13.01** | Monitoring Water Supply networks with Insertion Flow Meter (Quadrina), Pressure Transmitters and Data Loggers (Meinecke Cosmos) | | By arrangement | | |
| | **14. EQUIPMENT HIRE** | | | | |
| **14.01** | Single Channel Seismograph | | By arrangement | | |
| **14.02** | Plate Cross-Jacking Apparatus | | By arrangement | | |
| **14.03** | Point Load Apparatus | | By arrangement | | |
| **14.04** | Dynamic Cone Penetrometer: 1m long | | By arrangement | | |
| **14.05** | Dynamic Cone Penetrometer: 1m to 2m long | | By arrangement | | |
| **14.06** | Extra on 14.04 and 14.05 for the supply of disposable tips | | By arrangement | | |
| **14.07** | Pocket Shear Vane | | By arrangement | | |
| **14.08** | Schmidt Hammer | | By arrangement | | |
| **14.09** | Concrete Cube Moulds: 100mm or 150mm | | week | R 125.00 | R 142.50 |
| **14.10** | Concrete Cube Moulds: 100mm or 150mm | | month | R 375.00 | R 427.50 |
| **14.11** | Concrete Curing Bath with thermostatic control unit | | week | R 510.00 | R 581.40 |
| **14.12** | Concrete Curing Bath with thermostatic control unit | | month | R 1 515.00 | R 1 727.10 |
| **14.13** | Concrete Slump Measuring Apparatus | | week | R 85.00 | R 96.90 |
| **14.14** | Concrete Slump Measuring Apparatus | | month | R 220.00 | R 250.80 |
| **14.15** | Concrete Cube Press | | By arrangement | | |
| **14.16** | Moisture Density Nuclear Gauge | | By arrangement | | |
| **14.17** | Moisture Density Nuclear Gauge | | By arrangement | | |
| **14.18** | Geotechnical and Scientific Instruments | | By arrangement | | |
| | **Note: Regular or long term hiring rates are negotiable** | | | | |
| | **15. CALIBRATION OF LABORATORY APPARATUSES** | | | | |
| **15.01** | Calibration of Laboratory Apparatuses | | By arrangement | | |
| | **16. CONSTRUCTION CONTROL TERRAIN LABORATORIES** | | | | |
| **16.01** | Secondment of Laboratory Personnel | | By arrangement | | |
| **16.02** | Supply of Laboratory Apparatuses | | By arrangement | | |

GENERAL TERMS AND CONDITIONS

**1. REQUEST OF LABORATORY SERVICES**

Civilab (Proprietary) Limited (Registration No: 1998/019071/07), its executives, staff members and, where applicable, its contractors, subcontractors and agents ("the company") will employ all reasonable care to ensure that the required services and testing comply with reasonable standards. Despite these endeavours, the provisions of paragraph 9 will prevail and the purchaser of the company's services, its employees, contractors, sub-contractors and agents ("the purchaser") shall in all circumstances accept responsibility for:

●The relevance of requested services and testing; ●Any activities or operations directly or indirectly relating to the services of the company within or outside of the company's premises, which the purchaser may have requested orally or in writing or the company may consider in its discretion necessary or desirable in the rendering of these services; ●The accuracy of all information supplied to the company by the purchaser, which information the company is entitled to rely on in effecting all tests and results requested by the purchaser; ●Obtaining in advance the right of access to the testing site in accordance with the company's programme; ●The setting out of individual test positions; ●The safety of the company and its equipment on the testing site and in test holes, as well as any like or similar matters concerning the services rendered; ●The reinstatement of pathways, pavements and gardens, damaged as a result of testing operations, unless otherwise agreed to by the company; ●Any test hole left open at the request of others; ●The disposal of excavated material if test holes are to be left open; ●The subsidence of backfilled material in test holes. Note: Test holes are loosely backfilled without compaction with the material as excavated, unless otherwise instructed and agreed to by the company. In the event that it is requested to compact the backfill material of a test hole, reasonable care will be taken, but the company shall not be liable for any subsidence;

**2. SUBSURFACE SERVICES**

The company shall not be liable for any damages to underground services and installations, and the purchaser indemnifies the company against all claims, losses or proceedings arising therefrom, unless the services and installations are accurately recorded in site meetings or on formal drawings (as may be varied from time to time) signed by the company and then only to the extent that the company was grossly negligent. In the event of such gross negligence, the purchaser's rights shall be limited as in paragraph 9.

**3. PROGRAMME**

●Any programme provided by the company is indicative only and the company will accept no penalties, unless the amount of penalties and final programme has been agreed upon. ●The company shall be granted extra time to complete and/or correct the testing requested, should the company be delayed by causes beyond its direct control, including strikes, civil unrest, delays in obtaining requisite labour, material or equipment to render the services, transportation delays, storms, inundation of the site, unexpected soil conditions, legal proceedings instituted by third persons, interdiction, restraining or delaying the commencement or continuation of the assignment or an act of God. ●The purchaser will be charged at the laboratory's standard listed tariffs for any delays, caused by difficult access to the test site, obtaining security clearance to the site, installation of special equipment, obstructions and actions of all other parties or any default or failure of the purchaser, unless otherwise specified in writing and accepted by the company.

**4. TEST RESULTS AND REPORTS**

●All tests are carried out in accordance with reasonable standards. The company shall, however, not be liable in any way whatsoever for any error made in the execution or reporting of the tests or any erroneous conclusions drawn therefrom or from any consequences thereof. ●The company has the right, but not the obligation, to provide the purchaser with the factual results of any test undertaken without any obligation to interpret or report the possible implication arising out of such result.

**5. RETENTION OF RESULTS AND MATERIALS**

●The company will be entitled, at it's sole discretion, to discard a test specimen or any part thereof, during or after the execution of a test, provided that the test specimen will not be required in the finalisation of the test results. ●The company will endeavour, but will not be obligated to: a) retain any unused or surplus material, obtained or presented for testing, for 2 (two) months after receipt of such test sample/specimen; and b) retain test results for 5 (five) years from the commencement of the test programme, thereafter the

**6. TERMS OF PAYMENT**

●All payments to the company by the purchaser must be in cash, either for services to commence (COO) or presentation of the test results to the purchaser (COD), depending on the account type, unless the purchaser has made prior written arrangements with the company for a credit facility in which case payments must be made within 30 (thirty) days from the date of an invoice. ●All payments have to be made free of exchange and without any deductions whatsoever to the company at its head office or any other address, which it may direct from time to time in writing. ●Should the purchaser dispute the whole or any part of the amount owing in terms of the invoice, whatever the cause of such dispute (including, without limitation, deduction and retention monies, discounts, errors in amounts charged or the like), the purchaser shall be obliged to notify the company in writing thereof within 15 (fifteen) days of the date of the invoice, failing which the invoice shall be binding on the purchaser, who shall be deemed to have acknowledged his indebtedness to the company as recorded in the invoice. ●If, within such 15 (fifteen)-day period the purchaser gives the company a letter objecting to the whole or any part of the amount of the invoice, the purchaser shall remain liable to make immediate payment of the invoice. However, in the absence of an amicable arrangement with the company being concluded in writing, the dispute resolution provisions as set out in paragraph 8 will be invoked. The purchaser shall only be entitled to a refund of such amounts (if any) as may be awarded in his favour in accordance with the opinion of the umpire settling the dispute raised by the purchaser. ●Should the company, on the purchaser's instruction, render its invoice to a third party, whether or not a copy of such invoice was submitted to the purchaser, the purchaser shall remain fully liable and obligated to pay the amount of such invoice on or before the due date, should such third party fail to make such payment by the due date. ●All amounts that remain unpaid on the due date shall bear interest at the prime overdraft rate (percentage per annum compounded monthly in advance) as charged from time to time by the company's bankers, which interest rate shall be prima facie established by a certificate signed by any manager of such bank whose signature, capacity and authority it shall not be necessary to prove.

**7. THE COMPANY'S QUOTATIONS AND ACCEPTANCE**

●All quotations for the rendering of services by the company furnished to the purchaser are open for acceptance by the purchaser in writing for a period of 60 (sixty) days from the date of the company's quotation, which may not be accepted in part only, without the company's prior written consent. ●The company shall at all times have the right on written notice to the purchaser to withdraw, at its discretion, any quotation made by the company at any time prior to receipt by the company of the written acceptance of such quotation by the purchaser. ●In addition, should the company fail to obtain any security for payment, which it may require the purchaser to establish in favour of the company prior to the company commencing with laboratory services rendered to in the quotation, and whether or not such quotation was accepted by the purchaser, the company shall be entitled by notice to the purchaser to cancel such quotation without penalties.

**8. DISPUTE RESOLUTION**

Should any dispute arise between the company and the purchaser with regard to any matter arising from any quotation or the written acceptance thereof and the resultant contract, including any payments to be made thereunder, then:

●The parties shall endeavour to resolve such dispute amicably within 7 (seven) days after the dispute has arisen; ●If the parties are unable within 7 (seven) days (which may be extended by agreement between the parties in writing) to resolve such dispute, then the company (but not the purchaser) shall have the right to require that such dispute be referred for determination by an umpire in terms of this paragraph 8; ●The person to be appointed as the umpire shall be a person nominated by the chairman for the time being of the South African Institute of Civil Engineers; ●All disputes that require to be resolved by the umpire shall be held in Johannesburg in a summary manner, namely on the basis that it shall not be necessary to observe or carry out either the strict rules of evidence or the usual formalities or procedures, that is to say, in absence of an agreement between the parties, the procedure to be followed shall be laid down by the umpire; ●The parties shall use their best endeavours to ensure that proceedings shall be held and concluded within 21 (twenty-one) days after it is demanded; ●The umpire shall be entitled to consult such persons as he may deem necessary to reach a just and equitable conclusion and the parties to the dispute shall have no right to be present during such consultation or to be made aware thereof. The umpire shall be entitled to investigate or cause to be investigated any matter referred to him for decision for that purpose and shall have the widest possible powers of investigating all the books and records of the parties affected by the dispute, including the right to the fullest inspection of the same by him or by his duly authorised representative(s) and the right to make copies or make extracts therefrom and to have the same produced and/or delivered to any reasonable place required by him for the aforesaid purpose and shall have the right to interview and question under oath any affected party or its directors, officers, employees or agents and/or to call for written submissions by an affected party and/or its directors, officers, employees or agents; ●The umpire shall not be bound to follow strict principles of law, but may decide the matters submitted to him according to what he considers just and equitable under the circumstances, and therefore, the strict rules of law need not be observed or taken into account by him in arriving at his decision; ●Subject only to the limitation referred to in paragraph 9 below, the umpire shall be entitled to make such award, including an award for specific damages or to grant such interdict, damages or penalties or otherwise as he may, in his discretion, deem fit and appropriate; ●The umpire's decision shall be final and binding on all parties affected thereby, and shall be carried into effect and may be made an order of any competent court under whose jurisdiction any of the parties to the dispute are subject; ●The umpire shall act as an expert and not as an arbitrator and shall not, therefore, be bound by the provisions of any arbitration laws in force at the time; ●The provisions of these general terms, accepted by the purchaser, constitute an irrevocable consent to the award of the umpire and the purchaser and the company consents to such award being made an order of any competent court.

**9. LIMITATION OF LIABILITY**

Under no circumstances shall the company be liable or responsible to the purchaser for any damages (direct, indirect or prospective) which the purchaser may sustain or become liable for arising out of the failure on the part of the company to comply with its undertakings relating to the services to be rendered and any matters ancillary thereto and whether or not arising out of any decision by any competent court of law, tribunal, umpire or other authority.