

# LABORATORY TESTING

**4 LOCATIONS**

**1 LAB IN EACH REGION**

**16 PERMANENT TECHNICIANS**

Atterberg limits



Sedimentometric analysis

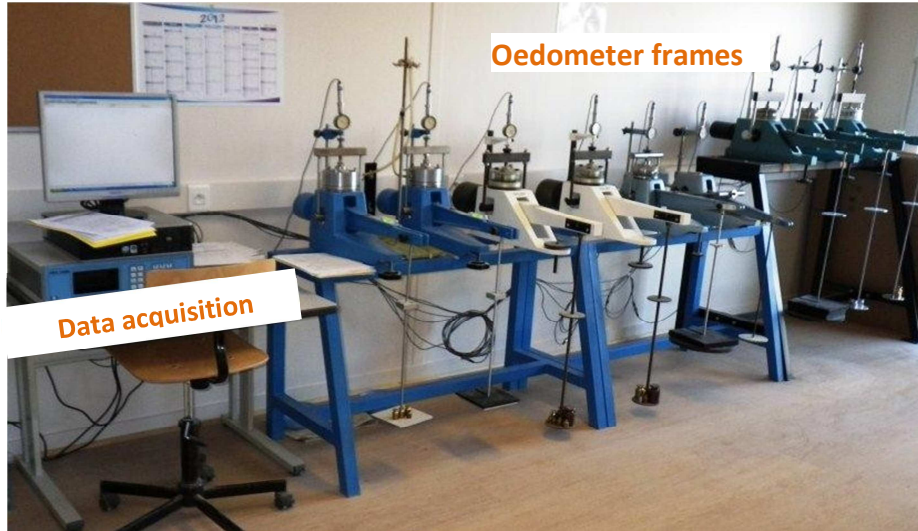


**IDENTIFICATION TESTS:** ATTERBERG LIMITS, GRANULOMETRY, SEDIMENTOMETRY, METHYLENE BLUE TEST, DENSITY, WATER CONTENT, CARBONATE CONTENT, ORGANIC CONTENT, AGGRESSIVENESS TOWARD CONCRETE BASED ON NF EN 206-1 STANDARD, SOIL CORROSIVITY, CLASSIFICATION BASED ON ROAD EARTHWORK GUIDELINES, ETC.

Our Quality Management System is **certified as compliant to ISO 9001** by **SOCOTEC-Certification** (N° CSM/GEO005)

# LABORATORY TESTING

## BEHAVIOUR TESTS



*35 OEDOMETER FRAMES  
8 FRAMES FOR SHRINKAGE*



Effective shrinkage limit



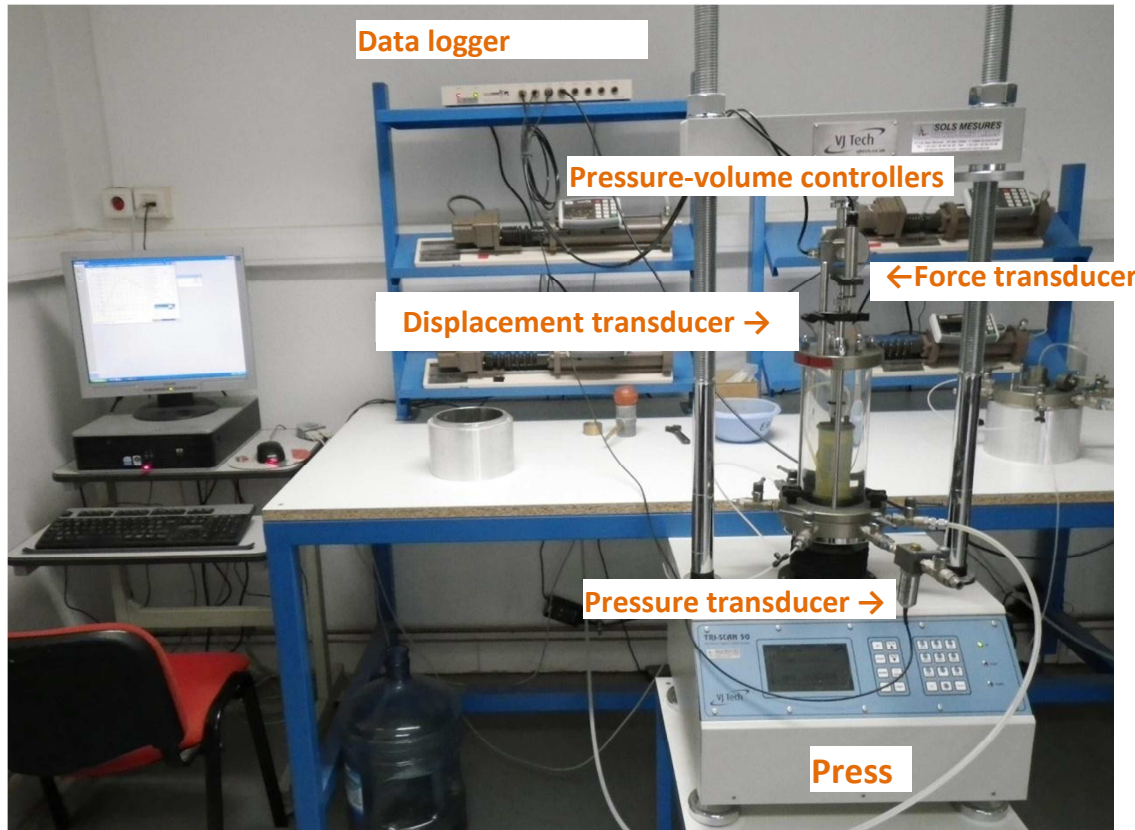
*DIRECT SHEAR TESTS WITH SHEAR BOX APPARATUS  
- 5 APPARATUS WITH AUTOMATIC ACQUISITION*

## QUALITY AND METROLOGY

Our Quality Management System is certified as compliant to ISO 9001 by SOCOTEC-Certification (N° CSM/GEO005)

# LABORATORY TESTING

## TRIAXIAL APPARATUS TESTING



**EQUIPMENT WITH CONTROLS & AUTOMATIC ACQUISITION:**  
6 PRESSES, 24 PRESSURE-VOLUME CONTROLLERS (GDS)  
6 FORCE TRANSDUCERS, 6 DISPLACEMENT TRANSDUCERS  
6 INTERSTITIAL PRESSURE TRANSDUCERS, 12 CELLS



**PREPARATION OF SAMPLE AND  
INSTALLATION IN CELL**



# LABORATORY TESTING

## ROAD GEOTECHNICS AND EARTHWORK TESTING

### FORMULATION FOR SOIL TREATMENT BASED ON SOIL TREATMENT GUIDELINES

- 1- SOIL TREATABILITY TESTS
- 2- REUSE OF OVERLY WET SOIL
- 3- UPPER EARTHWORK LAYER  
IMPROVEMENT
- 4- USE AS SUBGRADE

### CLASSIFICATION OF ROCKY MATERIALS

- 1- FRAGMENTIBILITY & DEGRADABILITY
- 2- LOS ANGELES & MICRO-DEVAL TESTS

### ROCK MECHANICS

UNIAXIAL COMPRESSIVE STRENGTH, INDIRECT TENSILE STRENGTH, YOUNG MODULUS (E), ETC.

#### 4 COMPACTION & TREATMENT UNITS



Automatic compactor



Blender



LOS ANGELES TEST



4 CBR PRESSES