Corrosion Protection is a must if the underground storage tank (UST) system is in direct contact with the surrounding environment (soil, gravel, sand, etc.). Corrosion protection of external surfaces from the surrounding environment can be achieved by non-metallic coatings or cathodic protection (CP). USTs are protected by two types of cathodic protection systems: sacrificial galvanic anodes and impressed current (ICCP).

If properly installed and well maintained, CP can prevent corrosion of external surfaces of the UST from the surrounding environment. If the CP system of UST does not comply with the regulatory requirements, the owners and operators may be subject to enforcement action which may include fines and penalties.

Team Matergenics can perform a pre-assessment of the existing CP systems and help the tank owner or operator better prepare for a compliance inspection. Matergenics can assist the owners and operators by testing new cathodic protection systems within 6 months of installation and the existing cathodic protection systems every year.

We also provide engineering solution, design and installation of cathodic protection systems to protect these important assets. At your request our NACE Certified Corrosion / Coating/ Cathodic Protection Specialist, Engineers and Technicians will perform a corrosion risk assessment at sites that exhibit accelerated corrosion.
Our overall approach for testing underground storage tanks and piping:

- Pre-assessment & Inspection services
- Maintenance & Inspection services
- Design services
- Installation services

✓ **Pre-assessment & Inspection Services:**
- Tank-to-Soil potential measurements
- Current output from Anodes, if ICCP system
- Four pin soil resistivity measurements
- Rectifier Monitoring
- Current Requirement test to determine the number of anodes required to meet -850mV NACE CP criterion

✓ **Design Services:**
- CP Design for tanks and piping
  - Preliminary CP Design
  - Final CP Design with specifications
- Final CP design includes:
  - Anode material, size, weight, number, location and distribution
  - Cable requirements
  - Installation notes

✓ **Installation Services:**
- Installation of Magnesium or Zinc anodes for galvanic CP system
- Installation of Mixed Metal Oxide (MMO) anodes for galvanic CP system
- Installation of permanent Cu-CuSO₄ Reference Electrodes
- Installation of Test Stations
- Installation of Rectifiers
- Installation of Junction Boxes

✓ **Gas Station Customers:**
- Valero
- British Petroleum
- Sunoco
- Unimart
- Shell
- US Gas

✓ **Matergenics’ project team:**
- PhD-level specialist; NACE-certified in corrosion, cathodic protection, coating, material selection / design
- PhD-level Professional Engineer (PE); NACE-certified in cathodic protection (CP2) and coatings (CIP1)
- PhD-level Technologist; with expertise in computer-aided design (CAD) and simulation
- Corrosion Engineer; NACE-certified in cathodic protection (CP2) and experienced in failure analysis
- Senior soil testing specialist