11. CORROSION LAB SERVICES

11.1 Testing Services

The Corrosion Branch provides various laboratory testing services for the Department's functional units. These services include corrosion testing of soil and water for minimum resistivity, pH, and water soluble sulfates and chlorides (***CTs 643***, ***417***, and ***422***, respectively); and testing of total chloride concentrations of concrete cores (***CT 404***).

Other specialty tests and field investigations are performed when appropriate.

11.2 Reporting Corrosion Test Results

For soil and water samples, a Corrosion Test Summary Report (PDF format) will be emailed to the contact listed on the TL-0101. The report summarizes test results for all samples received for a particular project site, whether or not the site is corrosive, and specifies the most corrosive parameters (worst case scenario) from all samples received for the site.

For concrete samples the Corrosion Test Summary Report will summarize the testing (compressive strength or chlorides) requested by the contact. Compressive strength values are provided per ASTM C39. Chloride values are sorted by depth starting at the concrete core surface and described as shown in Table 11.1. A description of steel reinforcement condition is provided at the depth it is encountered.

Table 11.1
Soluble Chloride Concentration in Reinforced Concrete

ppm	lb/yd^3	Assumed Condition
0 to 300	0 to 1.2	Passive (not corroding)
300 to 749	1.2 to 3.0	Corrosion initiation
≥ 750	≥ 3.0	Active corrosion

Unused portions of sampled material will be kept in the Corrosion Lab for approximately 60 days after the test results are reported. After 60 days, the materials will be discarded. If needed, arrangements can be made to return the unused portions after testing. Requests to return the unused sample material should be made at the time of the requested services for corrosion testing.