

Table 1.
4 fields of Level 1 & 2 of CEM on Chemical Analysis

Field	Target Compounds	Method of Pretreatment	Detection Device/Method
Field 1 (General items)	NO ₃ ⁻ , NO ₂ ⁻ , T-N, NH ₄ ⁺ , PO ₄ ⁻ , T-P, F ⁻ , Cl ⁻ , Br ⁻ , BrO ₃ ⁻ , Phenols, CN ⁻ , S, CrO ₄ ⁻ , COD, BOD, TOC, TOD, DO, pH, Others (asbestos)	Distillation Extraction Colorimetry Calibration curve Concentration computation	Spectrophotometer Ion chromatograph Flow injection Electrode (pH, DO) X-ray diffraction Microscope
Field 2 (Metals)	Cd, Pb, Cu, Zn, Fe, Mn, Al, Ti, Ni, Cr, Ca, Mg, Hexavalent Cr, Na, K, Hg, As, Se, Alkyl-Hg, Sb, B	Acidic cleavage Microwave decomposition Hydride generation method Reduction-vaporization Alkalinolysis Concentration computation	Frame/ Frameless atomic absorption ICP-AES ICP-MS Hydride generation Reduction vaporizing Photometer Spectrophotometer
Field 3 (Organic compounds)	Pesticide, Plasticizer, Endocrine, Volatile organic compound, Offensive odor substance, PCBs (insulating oil)	Solvent extraction Solid phase extraction Derivatization Clean up Selection of GC/LC column Concentration computation	GC LC GC-Quadrupole MS LC-Quadrupole MS
Field 4 (Ultra trace organic compounds)	Dioxins (PCDDs/PCDFs), Dioxin-like PCBs (Coplaner PCBs), Persistent Organic Pollutants (Stockholm Convention)	Solvent extraction Solid phase extraction Clean up Selection of GC column Concentration computation	GC-Double focusing MS (high resolution)