Our testing parameters for Water Analysis include, but are not limited to the following:

Testing Parameter	Description
Acidity	Acidity of a water is its quantitative capacity to react with a strong base to a designated pH. The measure value may vary significantly with the endpoint pH used in the determination. Acidity is a measure of an aggregate property of water and can be interpreted in terms of specific substances only when the chemical composition of the sample is known.
Alkalinity	Alkalinity of a water is its acid-neutralizing capacity. It is the sum of all the titratable bases. The measured value may vary significantly with the endpoint pH used. Alkalinity is a measure of an aggregate property of water and can be interpreted in terms of specific substances only when the chemical composition of the sample is known.
Anionic Surfactants	Surfactants enter waters and wastewaters mainly by discharge of aqueous wastes from household and industrial laundering and other cleansing operations. A surfactant combines in a single molecule a strongly hydrophobic group with a strongly hydrophilic one. Such molecules tend to congregate at the interfaces between the aqueous medium and the other phases of the system such as air, oily liquids and particles, thus imparting properties such as foaming, emulsification and particle suspension.
Biochemical Oxygen Demand (BOD)	BOD testing is used to determine the relative oxygen requirements of wastewaters, effluents, and polluted waters. Its widest application is in measuring waste loadings to treatment plants and in evaluating the plants' BOD removal efficiency. BOD testing measures the molecular oxygen used during a specified incubation period to - biochemically degrade organic material (carbonaceous demand) - Oxidize inorganic material - measure the amount of oxygen used to oxidize reduced forms of nitrogen
Carbon Dioxide	Surface waters normally contain less than 10 mg free carbon dioxide (CO^2) per litre, while some groundwaters may easily exceed that concentration. The CO^2 content of a water may contribute significantly to corrosion. Recarbonation of a supply during the last stages of water softening is a recognized treatment process
Chemical Oxygen Demand (COD)	COD is defined as the amount of a specified oxidant that reacts with the sample under controlled conditions. The quantity of oxidant consumed is expressed in terms of its oxygen equivalence. COD is often used as a measurement of pollutants in wastewater and natural waters

Chloride	Chloride in the form of chloride ion is one of the major inorganic anions in water and wastewater. The salty taste produced by chloride concentrations is variable and dependent on the chemical composition of water. The chloride concentration is higher in wastewater than in raw water because sodium chloride (NaCl) is a common article of diet and passes unchanged through the digestive system. Chloride may present in high concentration along the sea coast because of leakage of salt water into the sewerage system. It also may be increased by industrial processes. High chloride content may harm metallic pipes and structures, as well as growing plants
Chlorine	The chlorination of water supplies and polluted waters serves primarily to destroy or deactivate disease-producing microorganisms. A secondary benefit, particularly in drinking water, is the overall improvement in water quality resulting from the reaction of chlorine with ammonia, iron, manganese, sulphide and some organic substances.
Colour	Colour in water may be caused by the presence of minerals such as iron and manganese or by substances of vegetable origin such as algae and weeds. Industrial wastewater can contain lignins, tannins, dyes and other organic and inorganic chemicals that cause colour. Colour tests indicate the efficacy of the water treatment system.
Conductivity	Conductivity is a measure of the ability of an aqueous solution to carry an electric current. This ability depends on the presence of ions, total concentration, mobility, valence and on the temperature of measurement. Presence of dissolved solids such as calcium, chloride, and magnesium in water samples helps carries the electric current through water.
Cyanide	Cyanide refers to inorganic cyanide in water. Cyanide can exist in aqueous media as undissociated hydrogen cyanide, free cyanide ion and anionic complexes of cyanide with various metal cations.
Dissolved Oxygen	Dissolved Oxygen (DO) levels in natural and waste waters depend on the physical, chemical and biochemical activities in a waterbody. DO analysis is a key test in water pollution and waste treatment process control.
Elemental Analysis (Anions)	Determination of the common anions such as bromide, chloride, fluoride, nitrate, nitrite, phosphate and sulphate often is desirable to characterize a water and/or to assess the need for specific treatment. More recently, the need to measure the concentration of the disinfection by-products chlorite, chlorate and bromate has risen.

Flouride	Fluoride may occur naturally in water or it may be added in controlled amounts. Some fluorosis may occur when the fluoride level exceeds the recommended limits. In rare instances, the naturally occurring fluoride concentration may approach 10mg/L. Accurate determination of fluoride has increase in importance with the growth of the practice of fluoridation of water supplies as a public health measure. Maintenance of an optimal fluoride concentration is essential in maintaining effectiveness and safety of the fluoridation procedure.
Hardness	Water hardness was understood to be a measure of capability of water to precipitate soap. Hard water is high in dissolved minerals, largely calcium and magnesium. Total hardness is defined as the sum of the calcium and magnesium concentrations, both expressed as calcium carbonate, in mg/L
Metals	The effects of metals in water and wastewater range from beneficial through troublesome to dangerously toxic. Some metals are essential to plant and animal growth while others may adversely affect water consumers, wastewater treatment systems and receiving waters. The benefits versus toxicity of some metals depend on their concentrations in waters.
Oil & Grease	Oil & Grease is defined as any material recovered as a substance solvent from an acidified sample and not volatilized during the test. Certain constituents measured by the oil & grease analysis may influence wastewater treatment systems. If present in excessive amounts, they may interfere with aerobic and anaerobic biological processes and lead to decreased wastewater treatment efficiency. When discharged in wastewater or treated effluents, they may cause surface films and shoreline deposits leading to environmental degradation. A knowledge of the quantity of oil & grease is helpful in proper design and operation of wastewater treatment systems and also may call attention to certain treatment difficulties.
Pesticides	Organochlorine pesticides commonly occur in waters that have been affected by agricultural discharges. Some of the pesticides are bioaccumulative and relatively stable while some are toxic and carcinogenic and requires close monitoring.
pH Value	pH is a measure of hydrogen ion concentration. It is an indicator of relative acidity or alkalinity of water. A sample is considered to be acidic if the pH is below 7.0. Meanwhile, it is alkaline if the pH is higher than 7.0. Acidic water can lead to corrosion of metal pipes and plumping system. Meanwhile, alkaline water shows disinfection in water. The normal

	drinking water pH range mentioned in WHO and NDWQS guidelines is between 6.5 and 8.5
Phenolic Compounds	Phenols defined as hydroxy derivatives of benzene and its condensed nuclei, may occur in domestic and industrial wastewater, natural waters, and potable water supplies. Chlorination of such waters may produce odorous and objectionable-tasting chlorophenols. Phenol removal process in water treatment include superchlorination, chlorine dioxide or chloramine treatment, ozonation, and activated carbon absorption.
Phosphorus	Phosphorus occurs in natural waters and in wastewaters almost solely as phosphates. Organic phosphates are formed primarily by biological treatment process or by receiving-water biota. Phosphorus is essential to the growth to the growth of organisms and can be the nutrient that limits the primary productivity of a body of water.
Radioactivity	Radioactivity in water and wastewater originates from both natural sources and human activities operations. Water and wastewater monitoring programs should be designed to realistically assess the degree of radioactive contamination.
Salinity	Salinity is an important unitless property of industrial and natural waters. It was originally conceived as a measure of the mass of dissolved salts in a given mass of solution. The experimental determination of the salt content by drying and weighing presents some difficulties due to the loss of some components. The only reliable way to determine the true or absolute salinity of a natural water is to make a complete chemical analysis.
Solids	Solids refer to matter suspended or dissolved in potable, surface and saline waters, as well as domestic and industrial wastewaters. Solids may adversely affect water or effluent quality in a number of ways. Waters with high dissolved solids generally are of inferior palatability and may induce an unfavourable physiological reaction in the transient consumer.
Sulfate	Sulphate is widely distributed in nature and may be present in natural waters in concentrations ranging from a few to several thousand milligrams per litre. Mine drainage wastes may contribute large amounts of SO^4 through pyrite oxidation. Sodium and magnesium sulphate exert a cathartic action
Temperature	Temperature readings are used in the calculation of various forms of alkalinity, in studies of saturation and stability with respect to calcium

	carbonate, in the calculation of salinity, in colorimetric tests and general laboratory operations.
Total Dissolved Solids	TDS are the inorganic matters and small amounts of organic matter, which are present as solution in water. It is the total solids in a water sample that passes through a filter with a nominal pore size under specified conditions
Total Nitrogen	Organic nitrogen is defined functionally as organically bound nitrogen in the trinegative oxidation state. It does not include all organic nitrogen compounds. Analytically organic nitrogen and ammonia can be determined together and have been referred to as Kjeldahl nitrogen. Typical organic nitrogen concentrations vary from a few hundred micrograms per litre in some lakes to more than 20 mg/L in raw sewage.
Total Organic Carbon (TOC)	The organic carbon in water and wastewater consists of multiple organic compounds in various oxidation states. Some of these compounds can be oxidized further via biological or chemical processes. TOC is a more convenient and direct expression of total organic content than BOD, AOC and COD.
Total Solids (TS)	TS includes both total suspended and total dissolved solids, which are physically separated via filtration. Also known as total residue, it is the term used for materials left in the container after evaporation and drying of a water sample.
Total Suspended Solids (TSS)	TSS are solids in water that can be trapped by a filter. TSS can include a wide variety of material, such as silt, decaying plant and animal matter, industrial wastes, and sewage. High concentrations of suspended solids can cause many problems for stream health and aquatic life.
Turbidity	Turbidity is the measure of clarity of water. Water are turbid mainly due to suspended solids and colloidal matter. It may be due to eroded soil caused by dredging or due to the growth of micro-organisms. High turbidity makes filtration expensive. If sewage solids are present, pathogens may be encased in the particles and escape the action of chlorine during disinfection.
Volatile Organic Compounds	Many organic compounds have been detected in ground and surface waters. While most groundwater contamination episodes are traceable to leaking underground fuel or solvent storage vessels, landfills, agriculture practices, and wastewater disposal, though most probable cause for contamination of some aquifers and surface waters has never been firmly established. Contamination may be due to past practices of onsite disposal of domestic and industrial wastes or to illegal discharges.