

Water Quality Test Strips Datasheet



City						Date		
Site ID							Outfall Threshold*	Creek Threshold*
pH							<5 or >9	
Hardness ppm								
Hydrogen Sulfide ppm								
Iron ppm								
Copper ppm								
Lead ppb							>0.025 ppm >0.1 ppm	
Manganese ppm							>100 ppb	
Total Chlorine ppm								
Mercury ppm							>0.3 ppm	
Nitrate ppm								
Nitrite ppm							>1 ppm	
Sulfate ppm							>1 ppm	
Zinc ppm								
Fluoride ppm								
Sodium Chloride ppm							>0.3 ppm	>19 ppm acute >11 ppm chronic
Total Alkalinity ppm								

Procedures:

1. Rinse collection container (test tube or cup) 3X with stormwater/creek and keep 4th for testing.
2. Use test tube or separate sample cup than the probe is placed in. If same sample is used, dip test strip first.
3. Replace the lid immediately after removing a strip at each outfall before beginning testing.
4. Insert strip into sample for 2 seconds, shake off excess water & lay horizontally along bottle label to read.
5. Read entire strip in < 1 minute or else the air will discolor the test strip & skew readings.
6. Record value of matching color for each parameter. If it is between color options, record the higher value.
7. If your strips have been compromised due to exposure to open air or have expired, do not use.

Notes:

*Department of Ecology Illicit Connection and Illicit Discharge Field Screening and Source Tracing Guidance Manual, May 2020

All of the parameters tested by the strips are either an indicator of a pollution problem or are themselves toxic to humans and aquatic life depending on the concentrations present. In addition to anthropogenic sources, some of these parameters are also naturally occurring in the environment.

Parameter	Sources
Hydrogen Sulfide	Produced by non-pathogenic bacteria; a result of metal corrosion.
Iron	Possible by-product of paint, tires, or other metals; used in construction of stormwater pipes.
Copper	Asphalt sealcoating, pesticides or fungicides may contain this metal; a galvanic corrosion protectant for equipment (boats & tanks); may be used in pressure-treated wood.
Lead	Was a major problem when lead was an additive in gasoline.
Manganese	Found in mining waste, industrial waste, automobile parts and fluids; also naturally occurring in sediment and rocks.
Chlorine	Primarily associated with treated water supplies and industrial discharges.
Mercury	Results from burning coal, oil & natural gas, burning household trash; vehicles before 2003 had mercury switches, lights; also present naturally in the environment.
Nitrate & Nitrite	In fertilizers, failing septic systems, discharges from waste water treatment plants, pet waste, livestock and farm animals and industrial discharges.
Sulfate	In groundwater including mineral dissolution, atmospheric deposition and other sources (mining, fertilizer, etc.); gypsum is an important contributor.
Zinc	In galvanized metal roofing, gutters, metal fences, hydraulic fluid, asphalt sealcoating; may also be in paints, tires, pesticides, fungicides; biocide used for roof cleanings or boat coatings.
Fluoride	Utilized in industry applications in the production of semiconductors, fertilizers, high purity graphite, and nuclear applications.
Sodium Chloride	For deicing use on roadways; intrusion of salt water from natural sources.
Alkalinity	Ability of the water to neutralize acidic components which may be pollutants.
Chlorine + Fluoride + Bacteria	Together indicate that there may be an illegal sewer connection or someone pumping RV sewage into storm drain.
Copper + Lead + Zinc	Together these are being used as an indicator that the toxic tire compound 6PPD-Q may be present.