



## iSOC<sup>®</sup> Testing Parameters For Petroleum Hydrocarbon Sites

### Field Parameters:

**Dissolved oxygen (DO):** Identifies aerobic and anaerobic regions of contaminated site and the chemical, physical and biochemical activities occurring. (Low dissolved oxygen levels can limit the bacterial metabolism of certain organic compounds)

**pH:** Identifies the acidity or alkalinity of water. A change in pH may be associated with microbial activity. The optimum pH for bioremediation is 4-9.

**Temperature:** Optimal soil and water temperatures are 10° to 40°C (50° F to 104° F).

**Conductivity:** Conductivity is a good measure of the total amount of salts in solution (e.g., calcium, magnesium, sodium, potassium, chloride, and others).

**Turbidity:** Checks for suspended and colloidal matter such as clay, silt, finely divided organic and inorganic matter, and microscopic organisms.

**Redox Potential (ORP):** To determine if aerobic (more positive oxidizing conditions) or anaerobic (more negative reducing conditions) are present

**Biological Oxygen Demand (BOD):** Measures the amount of oxygen consumed by microorganisms in decomposing organic matter.

### Laboratory Parameters:

**VOCs:** Determine baseline level of contamination and relative concentrations of contaminants.

**Salinity:** Elevated salinity may reduce microbial activity.

**Nitrate:** Essential nutrient for bioremediation.

**Total Inorganic Carbons (TIC)(Alkalinity):** Best overall indicator of aerobic biological activity (by measuring the generation of CO<sub>2</sub>).

**Total Organic Carbons (TOC):** Measure of the total amount of natural organic material in a water sample.

**Total Dissolved Solids (TDS):** Defines the concentration of dissolved organic and inorganic chemicals.

**Heterotrophic Plate Count:** Procedure for estimating the number of live heterotrophic bacteria in the water (Colony Forming Units). Another good indicator of biodegradation.