

# Quick Reference of Fluid Contamination

A small sample of oil from your engines and generator, fluid from the engine cooling system, hydraulic systems and more gives you an extremely accurate picture of the health of the heart of your vessel—the mechanical systems that endure friction, heat and stress. Below is a list of the most common contaminants that are found in a marine engine.

▶ **OIL CRUD** Oil tests show signs of wear by looking for metals and crud, such as antifreeze, fuel, and water

▶ **CHROMIUM** From piston rings, cylinder liners and exhaust valves

▶ **SILICON** A “contaminant metal” indicating dirt. It’s more common in samples from land vehicles, but it can appear in a marine engine with a clogged air intake.

▶ **SODIUM AND POTASSIUM** From the cooling system. A corrosion pinhole can admit antifreeze, diluting the oil. Most gas and diesel inboards in salt water have closed-loop freshwater systems, but they still have components through which raw water flows, like heat exchangers and aftercoolers.

▶ **FUEL** From blow-by. It dilutes oil, triggering damage when moving parts scuff against one another.

▶ **SOOT** From incomplete combustion. It indicates dirty or worn injectors, improper fuel mixture, inadequate air intake flow, blow-by or an obstructed exhaust system. Diagnosing the problem and correcting it improves performance and lowers fuel consumption.

▶ **NICKEL** From crankshafts, camshafts and valves

▶ **ALUMINUM** From pistons and bearings

▶ **COPPER** From bushings and oil coolers

▶ **LEAD AND TIN** From the crankshaft main bearings

▶ **TITANIUM** From bearings, valves, struts and connecting rod pins



**ATLANTIC YACHT BASIN**

**757-482-2141 • 800-992-2489**

**[www.atlanticyachtbasin.com](http://www.atlanticyachtbasin.com)**

ICW at Mile 12, Great Bridge,  
2615 Basin Road, Chesapeake, VA 23322  
Email: [info@atlanticyachtbasin.com](mailto:info@atlanticyachtbasin.com)

