

POTENTIAL SOURCES OF SPECTROMETRY METALS

ALUMINUM (Al)	ANTIMONY (Sb)	BARIUM (Ba)	BERYLLIUM (Be)	BORON (B)	CADMIUM (Cd)	CALCIUM (Ca)	CHROMIUM (Cr)
<p>Wear Metals Bearings, blocks, blowers, bushings, clutches, cylinders, housings, pistons, pump bushings, motor housing, rotors, thrust bearings, thrust washers</p> <p>Contaminants Alumina, bauxite, catalyst, coal, fly ash, foundry dust, granite, grease thickener, paint, road dust</p>	<p>Wear Metals Alloy steel</p> <p>Contaminants Grease paint, ceramic products</p>	<p>Contaminants & Additives Fuel additive, grease thickener, OIL ADDITIVE: Detergent</p>	<p>Wear Metals Alloy steel, bearings</p> <p>Contaminants Dirt</p>	<p>Contaminants & Additives Coolant inhibitor, OIL ADDITIVES: Anti-wear, detergent, extreme pressure</p>	<p>Wear Metals Steel coatings, plating, bearings</p> <p>Contaminants Environmental</p>	<p>Contaminants & Additives Cement dust, Fuller's Earth, grease thickener, gypsum, hard water, lignite, limestone, mining dust, road dust, rubber, salt water, slag, OIL ADDITIVES: Detergent, rust inhibitor</p>	<p>Wear Metals Exhaust valves, lines, low alloy steel, oil coolers, rings, rods, roller/taper bearings, stainless steel</p> <p>Contaminants Water treatment, paint, other chemicals</p>
COPPER (Cu)	IRON (Fe)	LEAD (Pb)	MANGANESE (Mn)	MAGNESIUM (Mg)	MOLYBDENUM (Mo)	NICKEL (Ni)	PHOSPHOROUS (P)
<p>Wear Metals Babbitt bearings (underlay), bearing cage, brass, bronze, cam bushings, clutches, governor, guides, oil cooler, oil pumps, pump pistons & thrust plates, steering discs, valve train bushings, wear plates, wrist pin bushings</p> <p>Contaminants & Additives Paint, OIL ADDITIVE: Anti-wear</p>	<p>Wear Metals Bearings, block, brake bands, camshaft, cast iron, crankshafts, cylinders, discs, gears, housing, hydraulic pump, vanes, gears, pistons; liners, oil pump, PTO, rings, screws, shafts</p>	<p>Wear Metals Babbitt, journal bearing overlay, bronze alloy, solder</p> <p>Contaminants Gasoline additive, paint, road, dust, balancing weights</p>	<p>Wear Metals Aluminum alloys, steel & stainless steel components (shafts, valves, gears, bearings, etc.)</p>	<p>Wear Metals Turbine metallurgy, component housing</p> <p>Contaminants & Additives Hard water, road dust, seawater, Fuller's Earth, OIL ADDITIVES: Anti-friction, anti-oxidant, anti-wear, detergent</p>	<p>Wear Metals Alloy steel, piston rings</p> <p>Contaminants & Additives Grease, OIL ADDITIVES: Anti-friction, anti-wear, extreme pressure</p>	<p>Wear Metals Hardened steels, stainless steels, plating, roller bearings, valve trains, crankshafts, turbine bearings</p>	<p>Contaminants & Additives Cleaning detergent, coolant, OIL ADDITIVES: Anti-wear, extreme pressure</p>
POTASSIUM (K)	SILICON (Si)	SILVER (Ag)	SODIUM (Na)	TIN (Sn)	TITANIUM (Ti)	ZINC (Zn)	LITHIUM (Li)
<p>Contaminants Coolant inhibitor, fly ash, fuel element, granite, potash and paper mill dust, road dust</p>	<p>Wear Metals Alloy steel</p> <p>Contaminants & Additives Asbestos, cement dust, fly ash, coolant additive, glass, granite, grease, limestone, road dust, synthetic lubricant, sealant, slag, OIL ADDITIVE: Anti-foam</p>	<p>Wear Metals Alloy steel, bearing overlay, needle bearings, oil coolers (solder), wrist pin bushings (EMD engines)</p>	<p>Contaminants Activated alumina, coolant inhibitor, dirt, fly ash, grease, oil additives, paper mill dust, road salt</p>	<p>Wear Metals Bearing cage, babbitt, bearing flashing, piston overlay, solder</p>	<p>Wear Metals Turbine bearings, turbine blades</p> <p>Contaminants & Additives Paint, OIL ADDITIVE: Anti-wear</p>	<p>Wear Metals Brass, plating, seals</p> <p>Contaminants & Additives Cathodic protection, galvanizing, grease, OIL ADDITIVE: Anti-wear</p>	<p>Contaminants Grease</p>
							VANADIUM (V)
							<p>Wear Metals Fuel oils, turbine blades, valves</p>