

Basic Engine and Alarm Limits (Diesel Engines)
(Limits for basic 10,000 miles or 250 hours run time)

LubeDoc Alarm Series 03

Elements		Normal	Abnormal	Critical
Fe	Iron	<75	76-140	>140
Pb	Lead	<30	31-60	>60
Cu	Copper	<30	31-60	>60
Cr	Chromium	<5	6-15	>15
Al	Aluminum	<10	11-25	>25
Ni	Nickel	<5	6-15	>15
Ag	Silver	<5	6-10	>10
Sn	Tin	<5	6-10	>10
Na	Sodium	<10	11-30	>30
K	Potassium	Trace	Trace	Trace
Si	Silicon	<20	20-30	>30
Vis	Viscosity	11.0 - 16.0	<11.0 > 16.0	<11.0 > 16.0
Oxid	Oxidation	<2.0	>2.0 - 3.5	>3.6
TBN	Total Base Number	>4.5	<4.5	<4.0
TAN	Total Acid Number	<4.0 (CI/CH 4 oils)	>4.0-5.5 (CI/CH 4 oils)	>5.5 (CI/CH 4 oils)
Fuel Dilution %		<1.5	>1.6 - 2.4	>2.5
Soot %		<1.4	>1.5 - 2.0	>2.1

Note: Boron, Potassium, Phosphorus, Zinc, Calcium, Barium, Magnesium, Titanium, Molybdenum and Cadmium have no established limits. Compare with new oil reference sample and plot trends.

Note: This table should be used as a GENERAL GUIDE ONLY. It is subject to continual change, and SHOULD NOT BE CONSIDERED CURRENT OFFICIAL OEM LIMITS, GUIDELINES OR RECOMMENDATIONS OF ANY KIND, as it is derived from many different sources. OEMS do not always make their most current, official limits readily available to commercial oil analysis labs. Effective date 2/15/01.

Note: Some Alarm Limits above may vary to other outside sources. LubeTrak has established these limits to assist in the protection of components for our customers and as such, our limits may be lower than recommended limits of the OEM manufacturer.