

Diagnose Clé: **Normal** **Attention** **Danger** Responsable de la diagnose: Sean Geo

Usure normale. Pas de contamination majeure Conseil: Echantillonner a l'intervalle recommande.



Résultats				Echantillon actuel	Échantillons précédents
Echantillon N°				10363593	
Etat d'Avancement				✓	
Echantillonné					
Age du fluide	HOURS				
Age de l'unité	HOURS				
Reçu le				14/04/25	
État du fluide					
[ASTM D7279] - KV40	mm²/s	LM-3*		83.0	
Viscosité @ 100°C	mm²/s	LM-3*		12.4	
Indice de Viscosité	mm²/s			146	
[ASTM E2412] - Soot	wt %	LM-13		0.11	
[ASTM E2412] - Oxidation	Abs/0.1mm	LM-13		15.20	
[ASTM E2412] - Nitration	Abs/0.1mm	LM-13		8.51	
[ASTM E2412] - Sulfation	Abs/0.1mm	LM-13		20.67	
BN	mg KOH/g			7.2	
Additifs					
[ASTM D5185] - Boron	mg/kg	LM-5*		70	
[ASTM D5185] - Barium	mg/kg	LM-5*		0.1	
[ASTM D5185] - Calcium	mg/kg	LM-5*		2838	
[ASTM D5185] - Magnesium	mg/kg	LM-5*		25	
[ASTM D5185] - Phosphorus	mg/kg	LM-5*		981	
S	mg/kg	LM-5*		7978	
[ASTM D5185] - Zinc	mg/kg	LM-5*		1257	
Pollution					
Eau %	%	LM-1		<0.1	
Carburant	-	LM-13		N	
[ASTM D5185] - Sodium	mg/kg	LM-5*		2.0	
[ASTM D5185] - Potassium	mg/kg	LM-5*		2.1	
[ASTM D5185] - Silicon	mg/kg	LM-5*		5.6	
[ASTM D5185] - Lithium	mg/kg	LM-5*		0.3	
Carburant	-	LM-3*		N	
Glycol	%			0.0	
Traces d'usure					
[ASTM D5185] - Aluminium	mg/kg	LM-5*		4.3	
[ASTM D5185] - Chromium	mg/kg	LM-5*		1.2	
[ASTM D5185] - Molybdenum	mg/kg	LM-5*		30	
[ASTM D5185] - Iron	mg/kg	LM-5*		51	
[ASTM D5185] - Copper	mg/kg	LM-5*		29	
[ASTM D5185] - Lead	mg/kg	LM-5*		11	
[ASTM D5185] - Tin	mg/kg	LM-5*		0.9	
[ASTM D5185] - Silver	mg/kg	LM-5*		0.4	
[ASTM D5185] - Nickel	mg/kg	LM-5*		5.4	
[ASTM D5185] - Manganese	mg/kg	LM-5*		1.2	
[ASTM D5185] - Titanium	mg/kg	LM-5*		0.1	
[ASTM D5185] - Vanadium	mg/kg	LM-5*		0.1	
[ASTM D5185] - Cadmium	mg/kg	LM-5*		0.2	

FLUID ANALYSIS REPORT SYMBOLS & DEFINITIONS

	Normal
	Abnormal value. Monitor as advised
	Change oil
	Action required as indicated
	Oil requires cleaning or changing

Appearance	All Systems (excl. Engines)
10	Clear & Bright
20	Dark
30	Hazy
40	Cloudy
50	Emulsified
60	Free Water
70	Solid Debris
80	Solid Debris and water

VISCOSITY - the resistance to flow in a capillary tube under gravity.

FUEL DILUTION - by flash point & viscosity to detect rich mixtures & faulty injectors etc.

OIL CONDITION (OC) - arbitrary scale to measure soot, water and metals etc.

APPEARANCE (App) - arbitrary visual assessment of non-engine oils to identify visible contamination.

SOOT - by infra red light absorption indicates poor combustion, worn upper cylinders, rings.

SOOT residues to prevent blockages.

FERROUS DEBRIS (P.Q.) - arbitrary scale to detect small and large magnetic particles.

FERROGRAPHY - a microscopic study of wear particles to establish failure mode: available on request.

WATER - essential to detect coolant leaks or contamination by sea or fresh water.

BN - a measure of reserve alkalinity to protect the crankcase from acidic combustion gases.

SULPHATION - a measure of deterioration of the oil additives by sulphuric acid contamination.

AN - a measure of corrosive acidic materials in oxidised overheated oils.

OXIDATION & NITRATION - a measure of deterioration of the oil by reaction with air.

ISO CLEANLINESS CODE - a scale to indicate amount of particles in oils >4, >6 and >14 microns.

WEAR METALS - debris in oil from worn components.

ADDITIVE METALS - elements added by manufacturer to give particular properties to the oil.

CONTAMINATION METALS - elements indicative of dirt, coal & abrasive coolant residues etc.

ABBREVIATIONS

Ag - Silver	Na - Sodium
Al - Aluminium	Ni - Nickel
B - Boron	P - Phosphorus
Ba - Barium	Pb - Lead
Ca - Calcium	S = Sulphur
Cd - Cadmium	Si = Silicon
Cl - Chlorine	Sn - Tin
Cr - Chromium	Ti - Titanium
Cu - Copper	V - Vanadium
Fe - Iron	VI - Viscosity Index
K - Potassium	Zn - Zinc
Li - Lithium	RI - Refractive Index
Mg - Manganese	FAME - Fatty Acid Methyl Ester (Biofuel)
Mo - Molybdenum	

TEST

Kinematic Viscosity (KV) followed by temperature in °C Fuel
Oil Condition (OC)
Appearance (App)
Soot
Ferrous Debris / P.Q.
Water
Glycol
Base Number (TBN)
Acid Number (TAN)
Strong Acid Number (SAN)
Particle Count (ISO Code)
Initial PH

Units

Centistoke (cSt)
Normal Caution Serious
Arbitrary scale 0-100
Arbitrary scale 0-100
%
Arbitrary Scale 0-10000
% or ppm. 0.1% = 1000ppm
Normal Caution Serious, or % in mg KOH / gm
mg KOH / gm
mg KOH / gm
No. Particles / ml >4, >6, >14 microns Scale 0-14 , 7 = Neutral