HUTCHENS RENTZ-EDEN

OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id
CUMMINS LD MANNS
Component
Starboard Genset
Fluid
KENDALL D3 40WT (--- GAL)

RECOMMENDATION

Resample at the next service interval to monitor.

WEAR

All component wear rates are normal.

CONTAMINATION

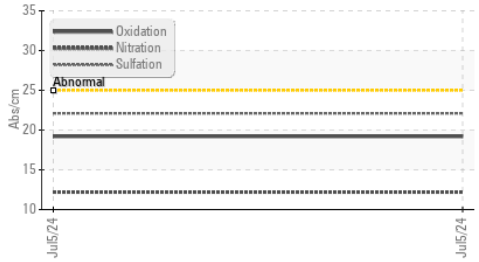
There is no indication of any contamination in the oil.

FLUID CONDITION

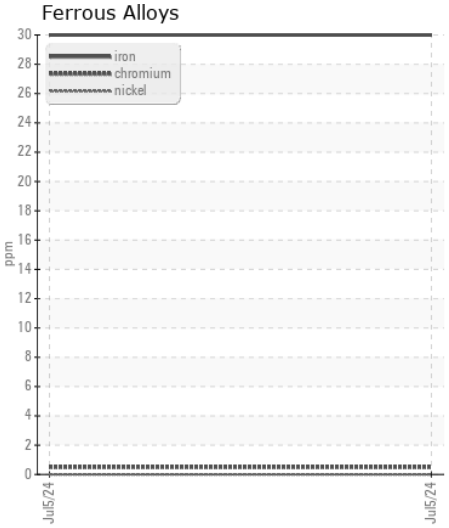
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is acceptable for the time in service.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		HRE0000268	---	---
Sample Date		Client Info		05 Jul 2024	---	---
Machine Age	hrs	Client Info		46009	---	---
Oil Age	hrs	Client Info		1000	---	---
Filter Age	hrs	Client Info		1000	---	---
Oil Changed		Client Info		Not Changd	---	---
Filter Changed		Client Info		Not Changd	---	---
Sample Status				NORMAL	---	---
Iron	ppm	ASTM D5185m	>50	30	---	---
Chromium	ppm	ASTM D5185m	>4	<1	---	---
Nickel	ppm	ASTM D5185m	>2	0	---	---
Titanium	ppm	ASTM D5185m		3	---	---
Silver	ppm	ASTM D5185m	>5	0	---	---
Aluminum	ppm	ASTM D5185m	>12	2	---	---
Lead	ppm	ASTM D5185m	>17	3	---	---
Copper	ppm	ASTM D5185m	>70	<1	---	---
Tin	ppm	ASTM D5185m	>15	0	---	---
Vanadium	ppm	ASTM D5185m		0	---	---
White Metal	scalar	*Visual	NONE	NONE	---	---
Yellow Metal	scalar	*Visual	NONE	NONE	---	---
Silicon	ppm	ASTM D5185m	>25	4	---	---
Potassium	ppm	ASTM D5185m	>20	2	---	---
Fuel		WC Method	>4.0	<1.0	---	---
Water		WC Method	>0.1	NEG	---	---
Glycol		WC Method		NEG	---	---
Soot %	%	*ASTM D7844		0.2	---	---
Nitration	Abs/cm	*ASTM D7624	>20	12.2	---	---
Sulfation	Abs/.1mm	*ASTM D7415	>30	22.1	---	---
Silt	scalar	*Visual	NONE	NONE	---	---
Debris	scalar	*Visual	NONE	NONE	---	---
Sand/Dirt	scalar	*Visual	NONE	NONE	---	---
Appearance	scalar	*Visual	NORML	NORML	---	---
Odor	scalar	*Visual	NORML	NORML	---	---
Emulsified Water	scalar	*Visual	>0.1	NEG	---	---
Sodium	ppm	ASTM D5185m		5	---	---
Boron	ppm	ASTM D5185m		28	---	---
Barium	ppm	ASTM D5185m		0	---	---
Molybdenum	ppm	ASTM D5185m		31	---	---
Manganese	ppm	ASTM D5185m		<1	---	---
Magnesium	ppm	ASTM D5185m		73	---	---
Calcium	ppm	ASTM D5185m		3549	---	---
Phosphorus	ppm	ASTM D5185m		518	---	---
Zinc	ppm	ASTM D5185m		600	---	---
Sulfur	ppm	ASTM D5185m		3882	---	---
Oxidation	Abs/.1mm	*ASTM D7414	>25	19.2	---	---
Base Number (BN)	mg KOH/g	ASTM D2896		6.7	---	---
Visc @ 100°C	cSt	ASTM D445		15.8	---	---

FT-IR (Direct Trend)

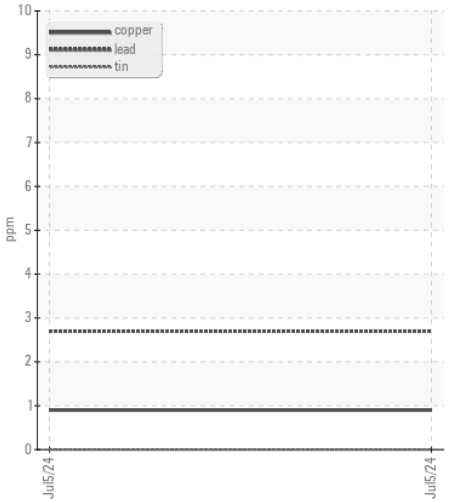


Ferrous Alloys

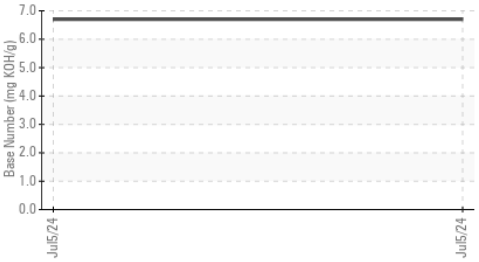


Viscosity @ 100°C

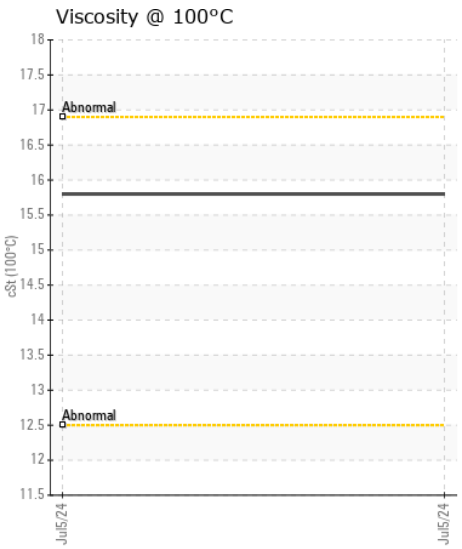
Non-ferrous Metals



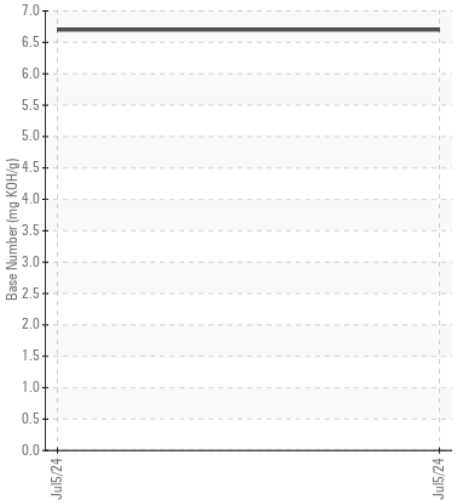
Base Number



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : HRE0000268
Lab Number : 06234363
Unique Number : 11123197
Test Package : FLEET

Received : 11 Jul 2024
Tested : 12 Jul 2024
Diagnosed : 14 Jul 2024 - Don Baldridge

To discuss this sample report, contact Customer Service at 1-800-237-1369.
** - Denotes test methods that are outside of the ISO 17025 scope of accreditation.*
Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

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