HUTCHENS RENTZ-EDEN

OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	SEVERE
FLUID CONDITION	SEVERE

Machine Id
TWIN DISC MORGAN LEIGH
Component
Port Main Engine
Fluid
KENDALL SUPER-D XA 15W40 (--- GAL)

RECOMMENDATION

We advise that you check the fuel injection system. We recommend that you change the oil at the next available stoppage or outage. We recommend an early resample to monitor this condition.

WEAR

All component wear rates are normal.

CONTAMINATION

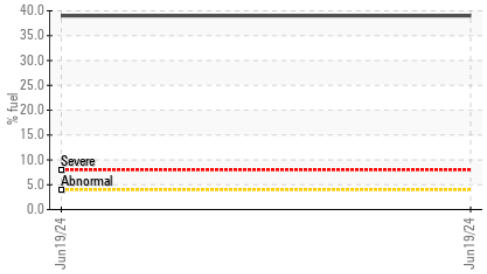
Elevated aluminum (Al) and/or lead (Pb) and potassium (K) levels in your metals analysis are likely a result of solder flux release into the lubricant and is common on new equipment/components. There is a high amount of fuel present in the oil. Tests confirm the presence of fuel in the oil.

FLUID CONDITION

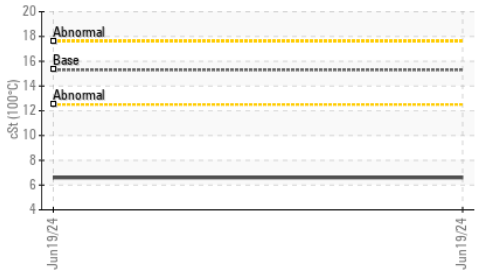
The BN result indicates that there is suitable alkalinity remaining in the oil. Fuel is present in the oil and is lowering the viscosity. The oil is no longer serviceable due to the presence of contaminants.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		HRE0000284	---	---
Sample Date		Client Info		19 Jun 2024	---	---
Machine Age	hrs	Client Info		34469	---	---
Oil Age	hrs	Client Info		250	---	---
Filter Age	hrs	Client Info		250	---	---
Oil Changed		Client Info		Not Changd	---	---
Filter Changed		Client Info		Not Changd	---	---
Sample Status				SEVERE	---	---
Iron	ppm	ASTM D5185m	>75	13	---	---
Chromium	ppm	ASTM D5185m	>8	<1	---	---
Nickel	ppm	ASTM D5185m	>2	<1	---	---
Titanium	ppm	ASTM D5185m	>3	55	---	---
Silver	ppm	ASTM D5185m	>2	<1	---	---
Aluminum	ppm	ASTM D5185m	>15	3	---	---
Lead	ppm	ASTM D5185m	>18	6	---	---
Copper	ppm	ASTM D5185m	>80	2	---	---
Tin	ppm	ASTM D5185m	>14	1	---	---
Vanadium	ppm	ASTM D5185m		1	---	---
White Metal	scalar	*Visual	NONE	NONE	---	---
Yellow Metal	scalar	*Visual	NONE	NONE	---	---
Silicon	ppm	ASTM D5185m	>20	4	---	---
Potassium	ppm	ASTM D5185m	>20	4	---	---
Fuel	%	ASTM D3524	>4.0	▲ 39.0	---	---
Water		WC Method	>0.1	NEG	---	---
Glycol		WC Method		NEG	---	---
Soot %	%	*ASTM D7844		0.4	---	---
Nitration	Abs/cm	*ASTM D7624	>20	8.6	---	---
Sulfation	Abs/.1mm	*ASTM D7415	>30	18.1	---	---
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	>75	2	---	---
Boron	ppm	ASTM D5185m	50	61	---	---
Barium	ppm	ASTM D5185m		1	---	---
Molybdenum	ppm	ASTM D5185m		5	---	---
Manganese	ppm	ASTM D5185m		<1	---	---
Magnesium	ppm	ASTM D5185m	270	265	---	---
Calcium	ppm	ASTM D5185m	1900	1173	---	---
Phosphorus	ppm	ASTM D5185m	1000	648	---	---
Zinc	ppm	ASTM D5185m	1260	786	---	---
Sulfur	ppm	ASTM D5185m	3400	2483	---	---
Oxidation	Abs/.1mm	*ASTM D7414	>25	13.6	---	---
Base Number (BN)	mg KOH/g	ASTM D2896	9.5	6.9	---	---
Visc @ 100°C	cSt	ASTM D445	15.3	▲ 6.6	---	---

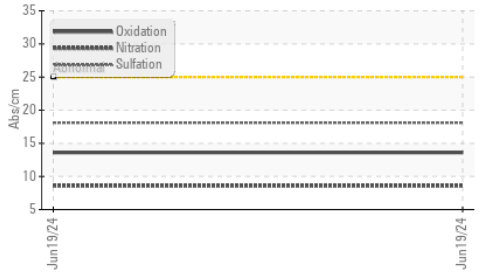
Fuel Dilution



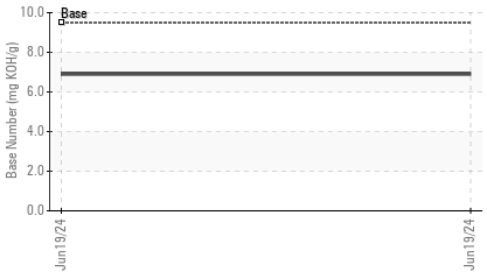
Viscosity @ 100°C



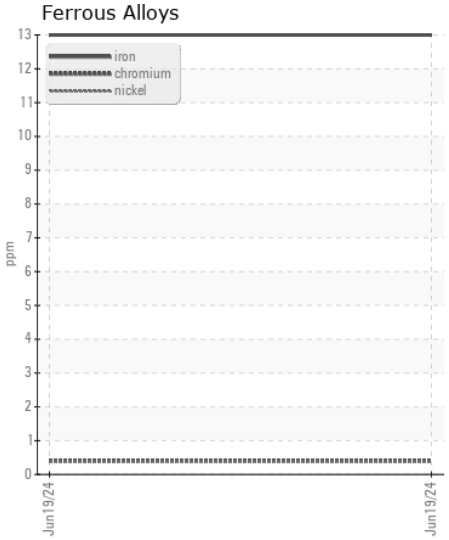
FT-IR (Direct Trend)



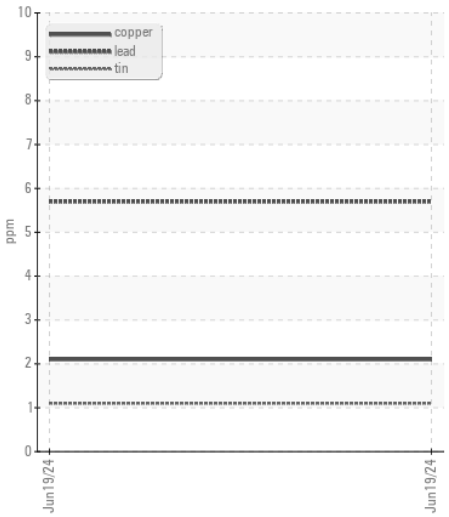
Base Number



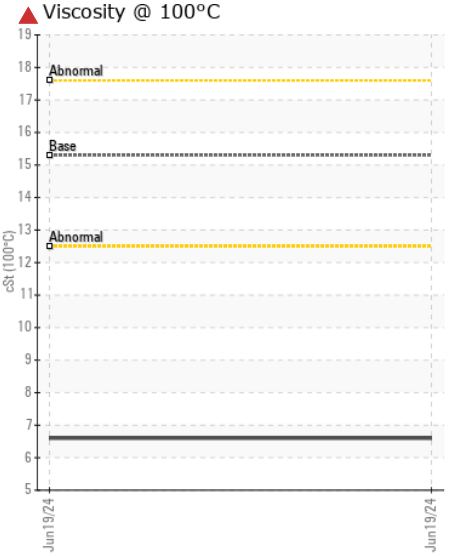
Ferrous Alloys



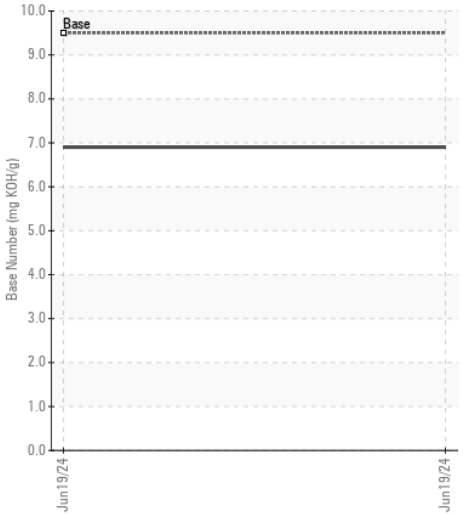
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : HRE0000284 **Received** : 24 Jun 2024
Lab Number : 06217875 **Tested** : 26 Jun 2024
Unique Number : 11096072 **Diagnosed** : 26 Jun 2024 - Wes Davis
Test Package : FLEET (Additional Tests: FuelDilution, PercentFuel)

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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