



OIL ANALYSIS REPORT

Sample Rating Trend

NORMAL



Machine Id
CATERPILLAR MATTHEW T
 Component
Starboard Main Engine
 Fluid
KENDALL SUPER-D XA 15W40 (--- GAL)



DIAGNOSIS

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 suitable for further service.

SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		WC0843986	---	---
Sample Date	Client Info		21 Sep 2023	---	---
Machine Age	hrs	Client Info	9854	---	---
Oil Age	hrs	Client Info	500	---	---
Oil Changed	Client Info		Changed	---	---
Sample Status			NORMAL	---	---

CONTAMINATION

	method	limit/base	current	history1	history2
Fuel	WC Method	>4.0	<1.0	---	---
Glycol	WC Method		NEG	---	---

WEAR METALS

	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m >120	27	---	---
Chromium	ppm	ASTM D5185m >10	<1	---	---
Nickel	ppm	ASTM D5185m >5	0	---	---
Titanium	ppm	ASTM D5185m	40	---	---
Silver	ppm	ASTM D5185m >5	0	---	---
Aluminum	ppm	ASTM D5185m >20	<1	---	---
Lead	ppm	ASTM D5185m >40	4	---	---
Copper	ppm	ASTM D5185m >300	86	---	---
Tin	ppm	ASTM D5185m >10	3	---	---
Vanadium	ppm	ASTM D5185m	0	---	---
Cadmium	ppm	ASTM D5185m	0	---	---

ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m 50	59	---	---
Barium	ppm	ASTM D5185m	0	---	---
Molybdenum	ppm	ASTM D5185m	44	---	---
Manganese	ppm	ASTM D5185m	<1	---	---
Magnesium	ppm	ASTM D5185m 270	279	---	---
Calcium	ppm	ASTM D5185m 1900	1938	---	---
Phosphorus	ppm	ASTM D5185m 1000	989	---	---
Zinc	ppm	ASTM D5185m 1260	1237	---	---
Sulfur	ppm	ASTM D5185m 3400	3980	---	---

CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >25	4	---	---
Sodium	ppm	ASTM D5185m	2	---	---
Potassium	ppm	ASTM D5185m >20	2	---	---

INFRA-RED

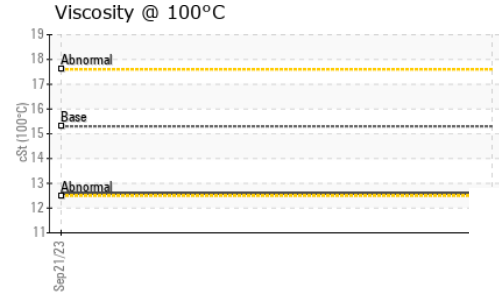
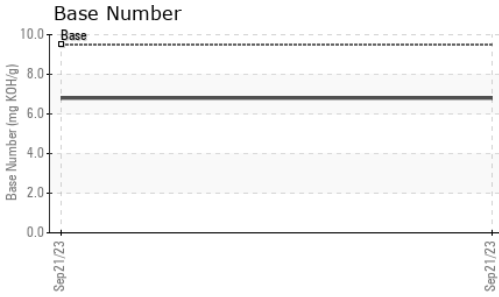
	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	0.4	---	---
Nitration	Abs/cm	*ASTM D7624 >20	9.0	---	---
Sulfation	Abs/.1mm	*ASTM D7415 >30	19.8	---	---

FLUID DEGRADATION

	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414 >25	14.6	---	---
Base Number (BN)	mg KOH/g	ASTM D2896 9.5	6.8	---	---



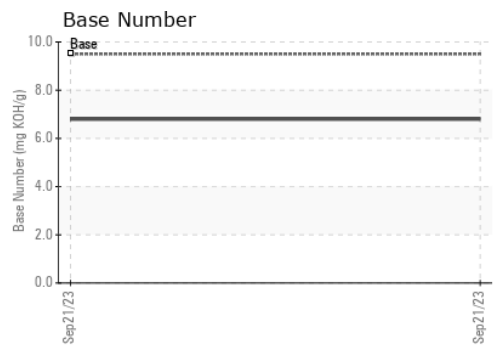
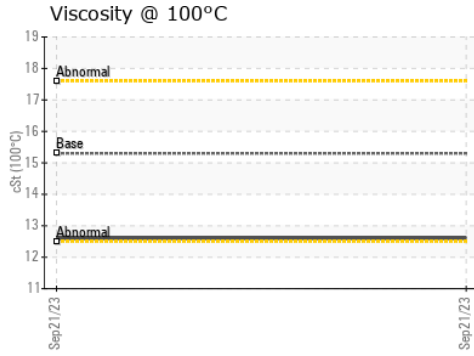
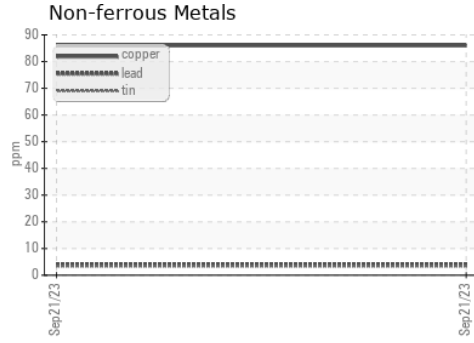
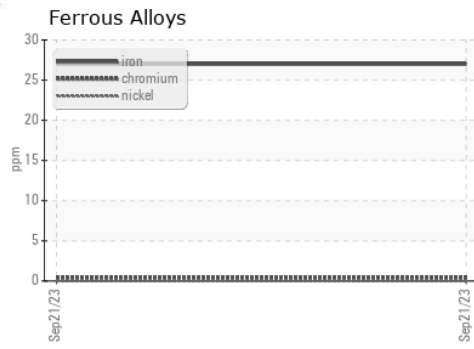
OIL ANALYSIS REPORT



VISUAL	method	limit/base	current	history1	history2	
White Metal	scalar	*Visual	NONE	NONE	---	---
Yellow Metal	scalar	*Visual	NONE	NONE	---	---
Precipitate	scalar	*Visual	NONE	NONE	---	---
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	---	---
Free Water	scalar	*Visual		NEG	---	---

FLUID PROPERTIES	method	limit/base	current	history1	history2	
Visc @ 100°C	cSt	ASTM D445	15.3	12.6	---	---

GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0843986 **Received** : 02 Oct 2023
Lab Number : **05965928** **Diagnosed** : 02 Oct 2023
Unique Number : 10672479 **Diagnostician** : Wes Davis
Test Package : FLEET

SUPERIOR MARINE
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 CHESAPEAKE, OH
 US 45619
 Contact: DARRELL KEARNS
 darrellkearns@superiormarineinc.com
 T:
 F:

Certificate L2367
 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)