



WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL



Machine Id
CATERPILLAR FRANCES SWAYZE
Component
Starboard Main Engine
Fluid
CHEVRON DELO 400 MULTIGRADE 15W40 (89 GAL)

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		MW0056789	---	---
Sample Date		Client Info		19 Dec 2023	---	---
Machine Age	hrs	Client Info		33901	---	---
Oil Age	hrs	Client Info		260	---	---
Filter Age	hrs	Client Info		260	---	---
Oil Changed		Client Info		Not Chngd	---	---
Filter Changed		Client Info		Not Chngd	---	---
Sample Status				NORMAL	---	---

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>120	5	---	---
Chromium	ppm	ASTM D5185m	>10	0	---	---
Nickel	ppm	ASTM D5185m	>5	0	---	---
Titanium	ppm	ASTM D5185m		5	---	---
Silver	ppm	ASTM D5185m	>5	0	---	---
Aluminum	ppm	ASTM D5185m	>20	2	---	---
Lead	ppm	ASTM D5185m	>40	1	---	---
Copper	ppm	ASTM D5185m	>300	8	---	---
Tin	ppm	ASTM D5185m	>10	<1	---	---
Vanadium	ppm	ASTM D5185m		<1	---	---
White Metal	scalar	*Visual	NONE	NONE	---	---
Yellow Metal	scalar	*Visual	NONE	NONE	---	---

CONTAMINATION

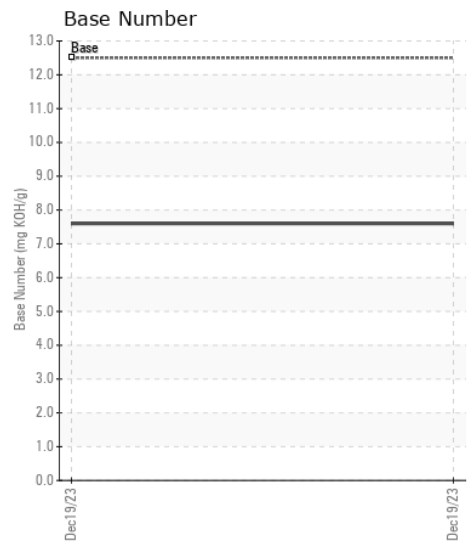
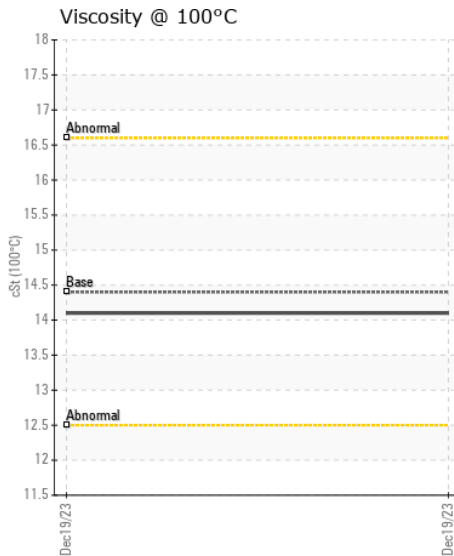
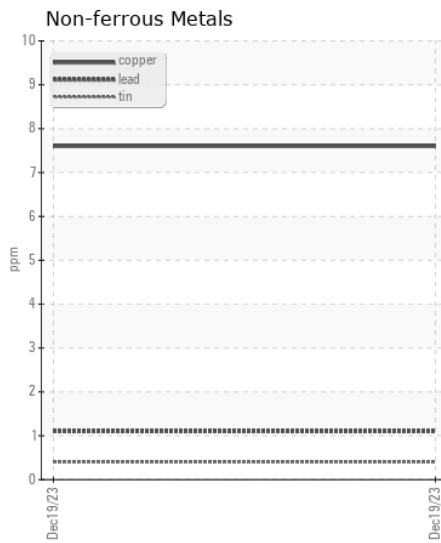
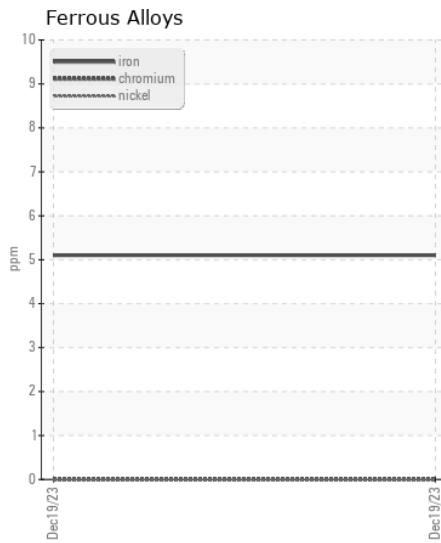
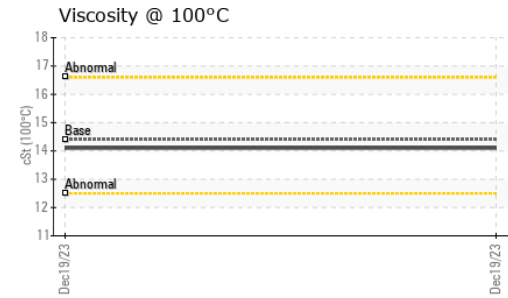
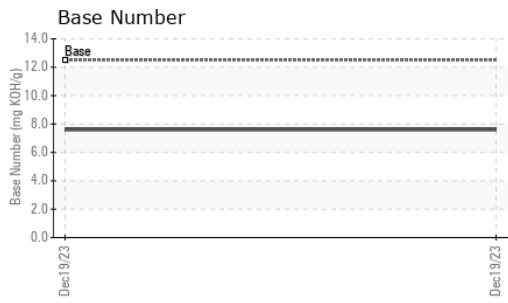
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>25	3	---	---
Potassium	ppm	ASTM D5185m	>20	4	---	---
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	7.5	---	---
Sulfation	Abs/.1mm	*ASTM D7415	>30	20.4	---	---
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	---	---

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.

Sodium	ppm	ASTM D5185m		2	---	---
Boron	ppm	ASTM D5185m	151	168	---	---
Barium	ppm	ASTM D5185m	0.4	0	---	---
Molybdenum	ppm	ASTM D5185m	250	39	---	---
Manganese	ppm	ASTM D5185m		<1	---	---
Magnesium	ppm	ASTM D5185m	0	385	---	---
Calcium	ppm	ASTM D5185m	2046	1685	---	---
Phosphorus	ppm	ASTM D5185m	1043	873	---	---
Zinc	ppm	ASTM D5185m	943	1019	---	---
Sulfur	ppm	ASTM D5185m	5012	3090	---	---
Oxidation	Abs/.1mm	*ASTM D7414	>25	15.6	---	---
Base Number (BN)	mg KOH/g	ASTM D2896	12.5	7.6	---	---
Visc @ 100°C	cSt	ASTM D445	14.4	14.1	---	---



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : MW0056789 **Received** : 17 Jan 2024
Lab Number : 06063377 **Diagnosed** : 18 Jan 2024
Unique Number : 10834759 **Diagnostician** : Wes Davis
Test Package : MAR 2

MAGNOLIA MARINE TRANSPORT
 697 HAINING ROAD
 VICKSBURG, MS
 US 39183
 Contact: MMT MAINTENANCE PLANNERS
 mmtmaintenanceplanners@ergon.com

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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