



WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id
CUMMINS MV FRAN C
Component
Starboard Main Engine
Fluid
CHEVRON DELO 400 MULTIGRADE 15W40 (9 GAL)

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		MW0057109	MW0045708	MW0045799
Sample Date		Client Info		08 Feb 2024	03 Nov 2023	13 Jan 2023
Machine Age	hrs	Client Info		4438	3848	2377
Oil Age	hrs	Client Info		1000	1000	500
Filter Age	hrs	Client Info		0	1000	500
Oil Changed		Client Info		N/A	Changed	Changed
Filter Changed		Client Info		N/A	Changed	Changed
Sample Status				NORMAL	NORMAL	ABNORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>75	5	6	16
Chromium	ppm	ASTM D5185m	>8	<1	<1	1
Nickel	ppm	ASTM D5185m	>2	0	<1	0
Titanium	ppm	ASTM D5185m	>3	0	<1	0
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m	>15	3	2	2
Lead	ppm	ASTM D5185m	>18	4	2	4
Copper	ppm	ASTM D5185m	>80	5	15	▲ 92
Tin	ppm	ASTM D5185m	>14	1	<1	2
Vanadium	ppm	ASTM D5185m		0	0	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

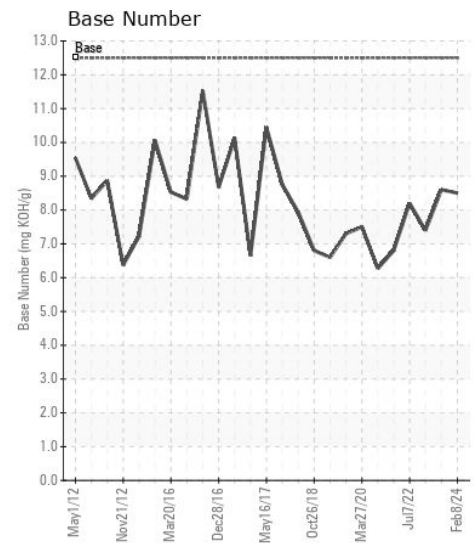
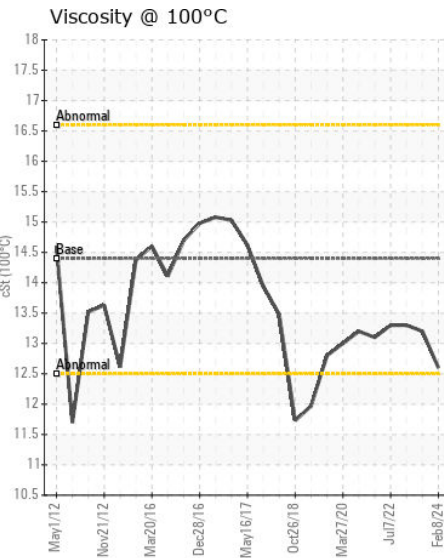
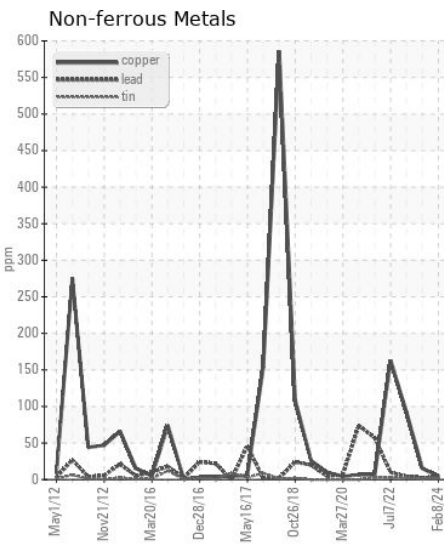
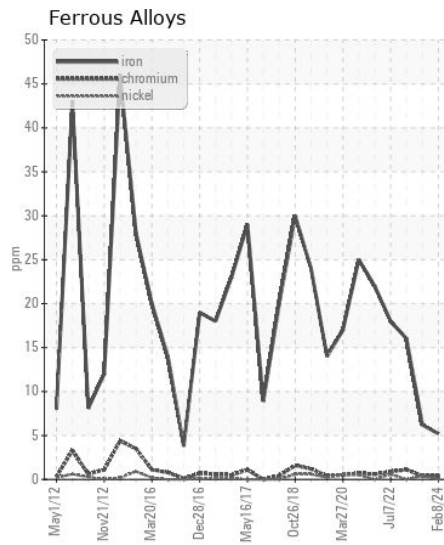
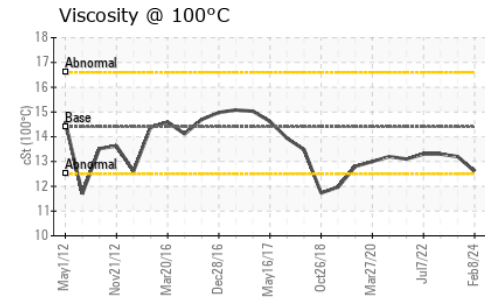
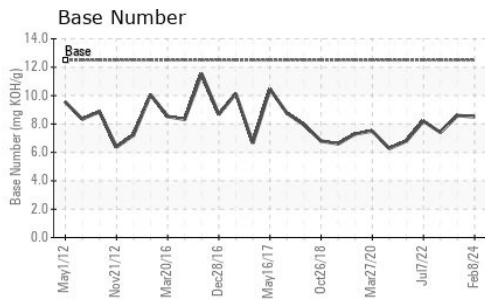
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>20	5	5	8
Potassium	ppm	ASTM D5185m	>20	1	9	3
Fuel		WC Method	>4.0	<1.0	<1.0	<1.0
Water		WC Method	>0.1	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844		0.1	0.1	0.2
Nitration	Abs/cm	*ASTM D7624	>20	7.2	6.6	8.8
Sulfation	Abs/.1mm	*ASTM D7415	>30	22.8	22.5	20.6
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.1	NEG	NEG	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	>75	1	2	3
Boron	ppm	ASTM D5185m	151	279	296	152
Barium	ppm	ASTM D5185m	0.4	0	5	1
Molybdenum	ppm	ASTM D5185m	250	115	113	57
Manganese	ppm	ASTM D5185m		<1	<1	1
Magnesium	ppm	ASTM D5185m	0	636	554	119
Calcium	ppm	ASTM D5185m	2046	1427	1439	1973
Phosphorus	ppm	ASTM D5185m	1043	681	721	879
Zinc	ppm	ASTM D5185m	943	804	779	1116
Sulfur	ppm	ASTM D5185m	5012	2345	2615	3575
Oxidation	Abs/.1mm	*ASTM D7414	>25	17.2	16.2	17.3
Base Number (BN)	mg KOH/g	ASTM D2896	12.5	8.5	8.6	7.4
Visc @ 100°C	cSt	ASTM D445	14.4	12.6	13.2	13.3



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : MW0057109
Lab Number : 06089352
Unique Number : 10876797
Test Package : MAR 2

Received : 14 Feb 2024
Tested : 15 Feb 2024
Diagnosed : 16 Feb 2024 - Don Baldrige

C & B MARINE
 50 E RIVERCENTER BLVD, SUITE 1180
 COVINGTON, KY
 US 41011

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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)