MAR II

WEAR CHECK Inland Marine Oil Analysis Program

OIL ANALYSIS REPORT

WEAR	ABNORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id
BILL RODGERS
Component
Port Main Engine
Fluid
CHEVRON DELO 400 XLE 15W40 (--- GAL)

RECOMMENDATION

No corrective action is recommended at this time. Resample at the next service interval to monitor.

WEAR

The lead level is abnormal. All other component wear rates are normal.

CONTAMINATION

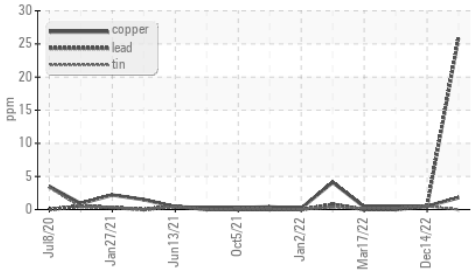
There is no indication of any contamination in the oil.

FLUID CONDITION

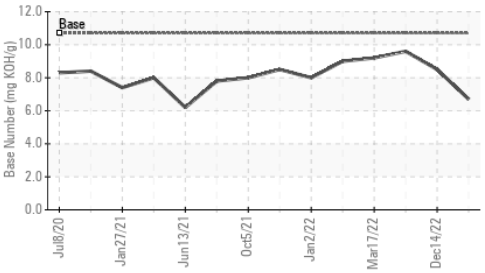
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		MW05745148	MW05718319	MW05526636
Sample Date		Client Info		19 Jan 2023	14 Dec 2022	21 Apr 2022
Machine Age	hrs	Client Info		9472	8679	8154
Oil Age	hrs	Client Info		793	525	576
Filter Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		N/A	N/A	N/A
Filter Changed		Client Info		N/A	N/A	N/A
Sample Status				ABNORMAL	ATTENTION	NORMAL
Iron	ppm	ASTM D5185m	>75	7	1	2
Chromium	ppm	ASTM D5185m	>8	0	<1	0
Nickel	ppm	ASTM D5185m	>2	0	0	0
Titanium	ppm	ASTM D5185m	>3	0	1	2
Silver	ppm	ASTM D5185m	>2	0	0	<1
Aluminum	ppm	ASTM D5185m	>15	0	2	3
Lead	ppm	ASTM D5185m	>18	▲ 26	<1	0
Copper	ppm	ASTM D5185m	>80	2	<1	<1
Tin	ppm	ASTM D5185m	>14	0	<1	<1
Vanadium	ppm	ASTM D5185m		0	<1	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Silicon	ppm	ASTM D5185m	>20	5	5	6
Potassium	ppm	ASTM D5185m	>20	1	0	0
Fuel	%	ASTM D3524	>4.0	<1.0	▲ 2.4	<1.0
Water		WC Method	>0.1	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844		0.1	0.1	0.1
Nitration	Abs/cm	*ASTM D7624	>20	7.5	7.7	7.7
Sulfation	Abs/.1mm	*ASTM D7415	>30	20.7	21.5	23.3
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
Sodium	ppm	ASTM D5185m	>75	0	<1	1
Boron	ppm	ASTM D5185m		338	319	290
Barium	ppm	ASTM D5185m		0	0	0
Molybdenum	ppm	ASTM D5185m		90	88	100
Manganese	ppm	ASTM D5185m		0	<1	<1
Magnesium	ppm	ASTM D5185m		427	518	632
Calcium	ppm	ASTM D5185m		1322	1333	1483
Phosphorus	ppm	ASTM D5185m	760	805	789	685
Zinc	ppm	ASTM D5185m	830	960	918	759
Sulfur	ppm	ASTM D5185m	2770	2464	3214	2174
Oxidation	Abs/.1mm	*ASTM D7414	>25	16.2	15.7	17.2
Base Number (BN)	mg KOH/g	ASTM D2896	10.7	6.7	8.5	9.6
Visc @ 100°C	cSt	ASTM D445	14.9	12.4	12.4	13.3

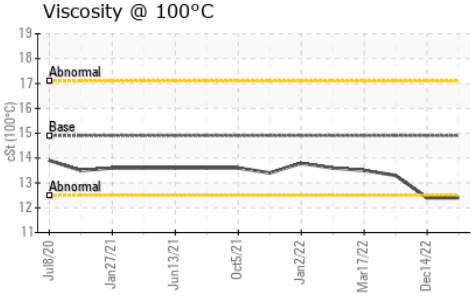
Non-ferrous Metals



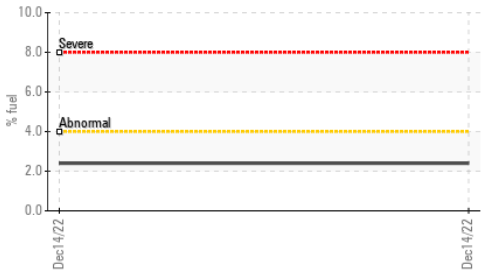
Base Number



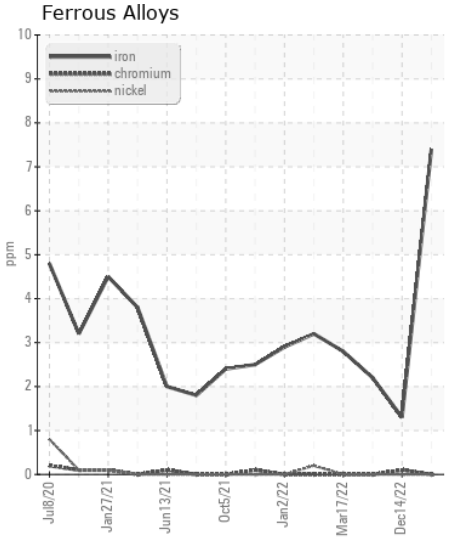
Viscosity @ 100°C



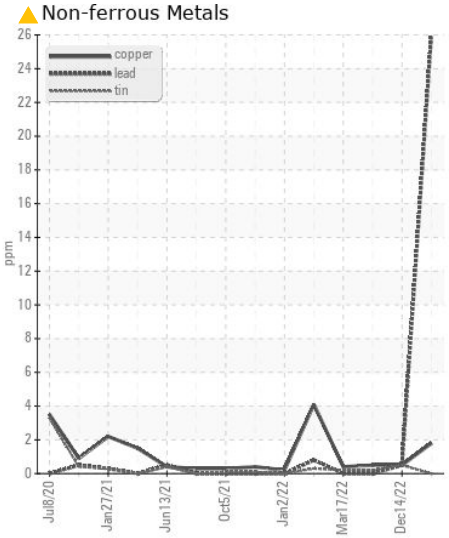
Fuel Dilution



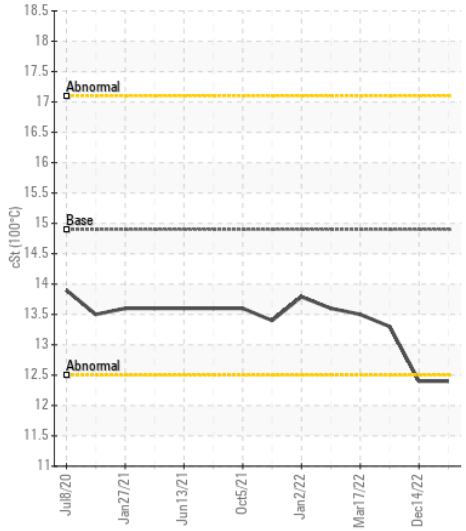
Ferrous Alloys



Non-ferrous Metals



Viscosity @ 100°C



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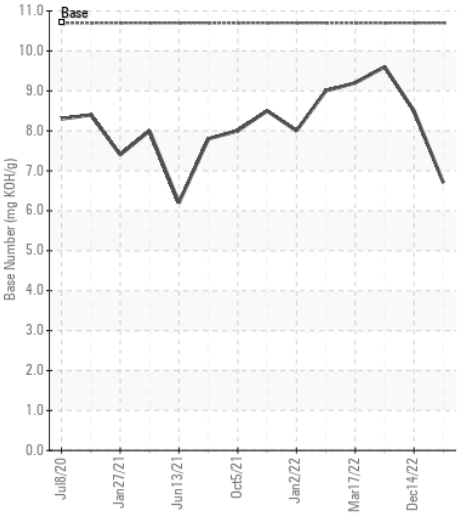

Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : MW05745148 **Received** : 20 Jan 2023
Lab Number : 05745148 **Tested** : 24 Jan 2023
Unique Number : 10299747 **Diagnosed** : 24 Jan 2023 - Jonathan Hester
Test Package : MAR 2 (Additional Tests: FUELDILUTION)

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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