MAR II

WEAR CHECK Inland Marine Oil Analysis Program

OIL ANALYSIS REPORT

WEAR	ABNORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id
MRC
Component
Starboard Genset
Fluid
CHEVRON URSA SUPER PLUS 40 (--- 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

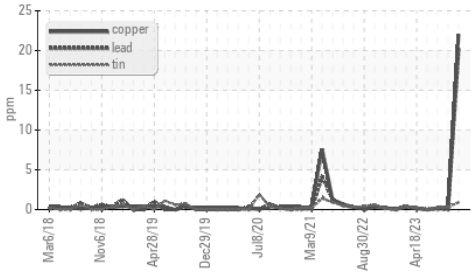
There is no indication of any contamination in the oil.

FLUID CONDITION

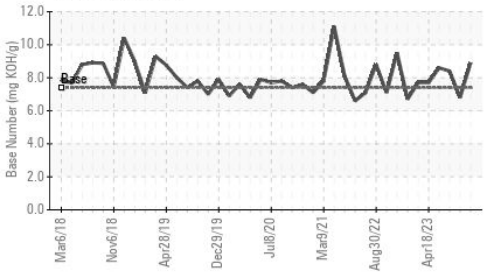
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		MW05981734	MW05934673	MW05877873
Sample Date		Client Info		16 Oct 2023	24 Aug 2023	19 Jun 2023
Machine Age	hrs	Client Info		6433	5141	5141
Oil Age	hrs	Client Info		470	822	547
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	NORMAL	NORMAL
Iron	ppm	ASTM D5185m	>50	10	6	6
Chromium	ppm	ASTM D5185m	>4	<1	0	<1
Nickel	ppm	ASTM D5185m	>2	<1	0	0
Titanium	ppm	ASTM D5185m		1	<1	0
Silver	ppm	ASTM D5185m	>5	0	0	0
Aluminum	ppm	ASTM D5185m	>12	3	<1	2
Lead	ppm	ASTM D5185m	>17	▲ 20	0	<1
Copper	ppm	ASTM D5185m	>70	22	<1	<1
Tin	ppm	ASTM D5185m	>15	<1	<1	<1
Vanadium	ppm	ASTM D5185m		<1	<1	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Silicon	ppm	ASTM D5185m	>25	4	4	4
Potassium	ppm	ASTM D5185m	>20	32	0	1
Fuel		WC Method	>4.0	<1.0	<1.0	<1.0
Water		WC Method	>0.1	NEG	NEG	NEG
Glycol	%	*ASTM D2982		NEG	NEG	NEG
Soot %	%	*ASTM D7844		0.1	0.1	0.1
Nitration	Abs/cm	*ASTM D7624	>20	7.2	6.0	7.3
Sulfation	Abs/.1mm	*ASTM D7415	>30	21.3	18.2	21.2
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	LIGHT
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		197	2	0
Boron	ppm	ASTM D5185m		305	331	346
Barium	ppm	ASTM D5185m		10	0	2
Molybdenum	ppm	ASTM D5185m		120	71	105
Manganese	ppm	ASTM D5185m		<1	<1	<1
Magnesium	ppm	ASTM D5185m		492	277	499
Calcium	ppm	ASTM D5185m		1614	2229	1556
Phosphorus	ppm	ASTM D5185m	1000	747	752	815
Zinc	ppm	ASTM D5185m	1090	873	928	988
Sulfur	ppm	ASTM D5185m		2578	3266	3057
Oxidation	Abs/.1mm	*ASTM D7414	>25	15.4	11.7	15.0
Base Number (BN)	mg KOH/g	ASTM D2896	7.4	8.9	6.8	8.4
Visc @ 100°C	cSt	ASTM D445	14.7	13.1	13.6	12.8

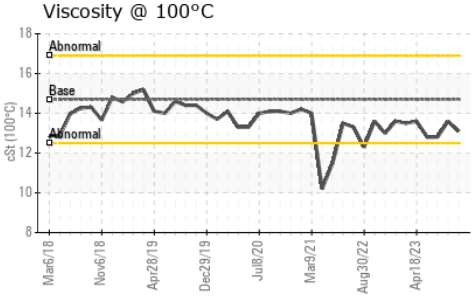
Non-ferrous Metals



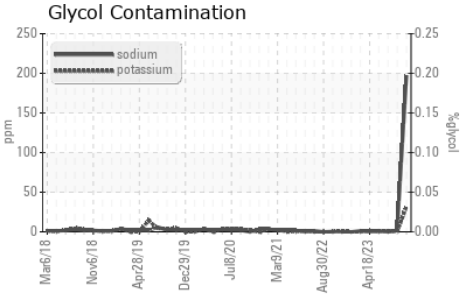
Base Number



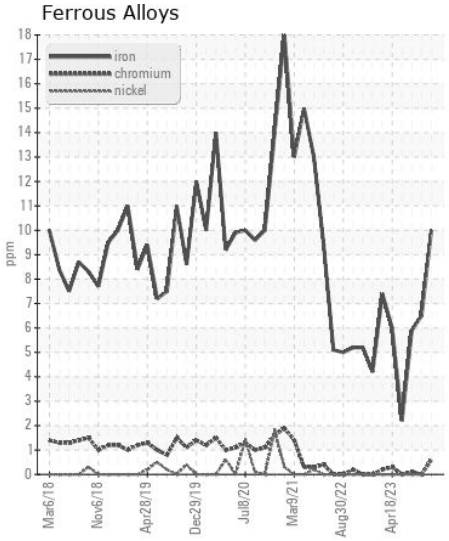
Viscosity @ 100°C



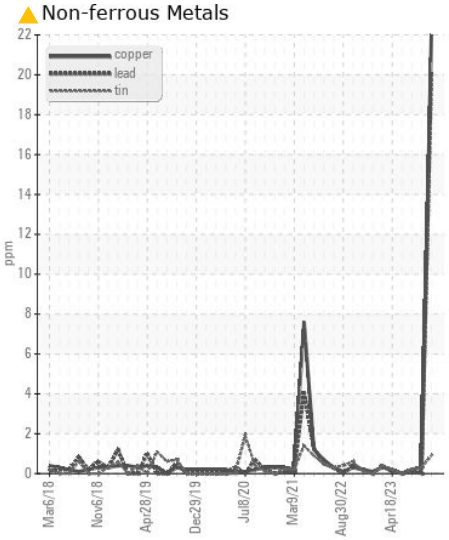
Glycol Contamination



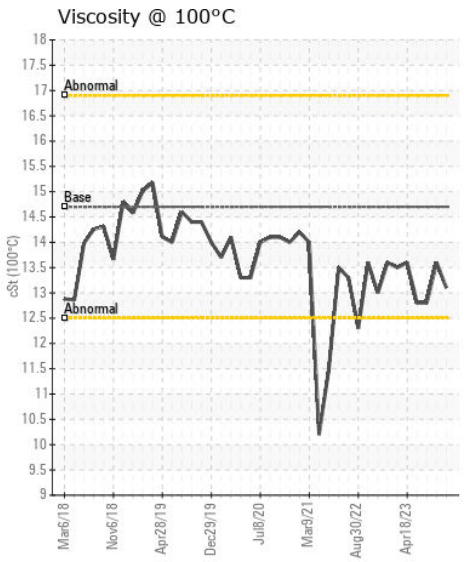
Ferrous Alloys



Non-ferrous Metals



Viscosity @ 100°C



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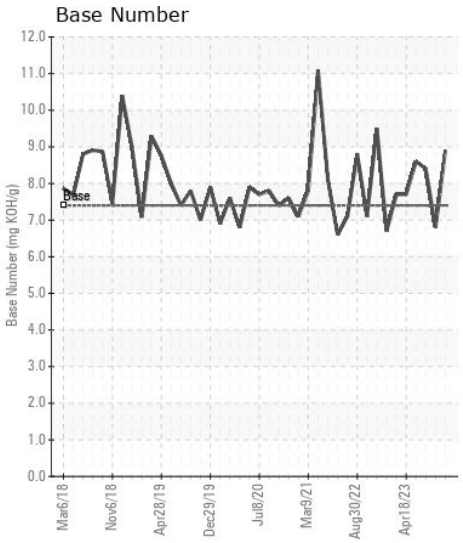

Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : MW05981734
Lab Number : 05981734
Unique Number : 10699029
Test Package : MAR 2 (Additional Tests: GLYCOL)

Received : 17 Oct 2023
Tested : 19 Oct 2023
Diagnosed : 19 Oct 2023 - Jonathan Hester

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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