MAR II

WEAR CHECK Inland Marine Oil Analysis Program

OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Area
JOHN M DONNELLY
Machine Id
[JOHN M DONNELLY] 008 621298-8
Component
Starboard Genset
Fluid
CHEVRON DELO 400 MULTIGRADE 15W40 (--- GAL)

RECOMMENDATION

Resample at the next service interval to monitor.

WEAR

All component wear rates are normal.

CONTAMINATION

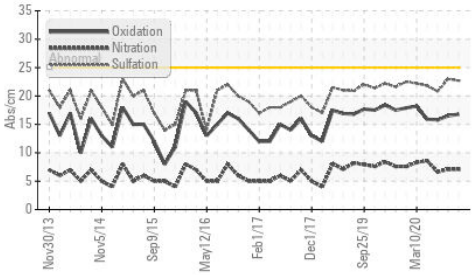
There is no indication of any contamination in the oil.

FLUID CONDITION

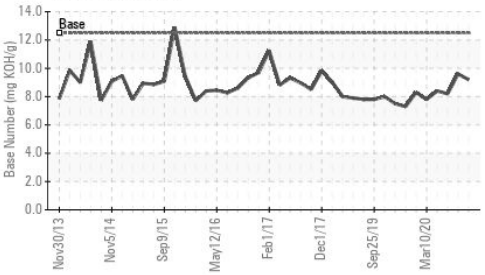
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		MW0061222	MW0017912	MW0033962
Sample Date		Client Info		27 Mar 2024	22 Aug 2023	09 Jan 2023
Machine Age	hrs	Client Info		5612	0	0
Oil Age	hrs	Client Info		462	489	400
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				NORMAL	NORMAL	ATTENTION
Iron	ppm	ASTM D5185m	>50	7	10	6
Chromium	ppm	ASTM D5185m	>4	<1	<1	1
Nickel	ppm	ASTM D5185m	>2	0	<1	<1
Titanium	ppm	ASTM D5185m		0	<1	<1
Silver	ppm	ASTM D5185m	>5	0	0	0
Aluminum	ppm	ASTM D5185m	>12	3	4	2
Lead	ppm	ASTM D5185m	>17	<1	0	<1
Copper	ppm	ASTM D5185m	>70	1	2	11
Tin	ppm	ASTM D5185m	>15	<1	<1	<1
Vanadium	ppm	ASTM D5185m		<1	<1	1
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Silicon	ppm	ASTM D5185m	>25	5	7	7
Potassium	ppm	ASTM D5185m	>20	18	2	1
Fuel		WC Method	>4.0	<1.0	<1.0	1.9
Water		WC Method	>0.1	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844		0.1	0.2	0.1
Nitration	Abs/cm	*ASTM D7624	>20	7.1	7.1	6.6
Sulfation	Abs/.1mm	*ASTM D7415	>30	22.7	23.0	20.8
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		5	0	3
Boron	ppm	ASTM D5185m	151	341	286	299
Barium	ppm	ASTM D5185m	0.4	0	10	0
Molybdenum	ppm	ASTM D5185m	250	119	125	112
Manganese	ppm	ASTM D5185m		2	<1	2
Magnesium	ppm	ASTM D5185m	0	637	611	586
Calcium	ppm	ASTM D5185m	2046	1586	1464	1306
Phosphorus	ppm	ASTM D5185m	1043	680	653	571
Zinc	ppm	ASTM D5185m	943	790	776	703
Sulfur	ppm	ASTM D5185m	5012	2833	2638	2326
Oxidation	Abs/.1mm	*ASTM D7414	>25	16.8	16.5	15.8
Base Number (BN)	mg KOH/g	ASTM D2896	12.5	9.2	9.6	8.2
Visc @ 100°C	cSt	ASTM D445	14.4	12.8	13.8	12.3

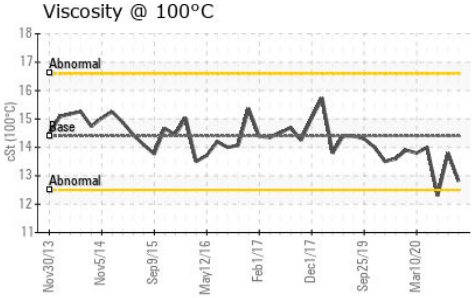
FT-IR (Direct Trend)



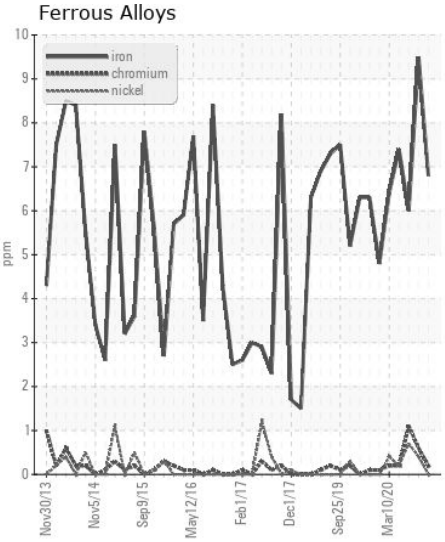
Base Number



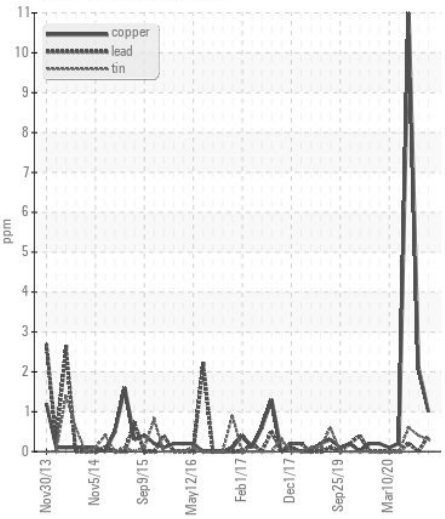
Viscosity @ 100°C



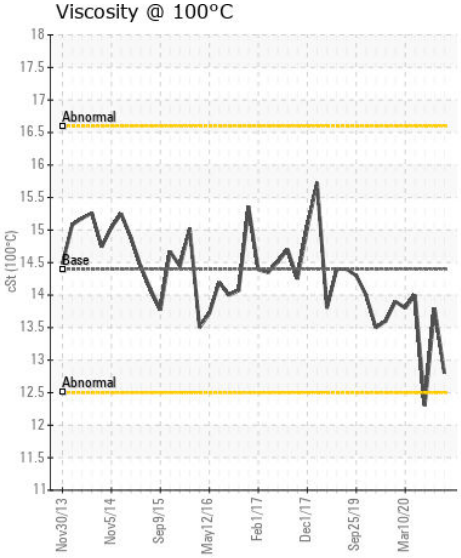
Ferrous Alloys



Non-ferrous Metals



Viscosity @ 100°C



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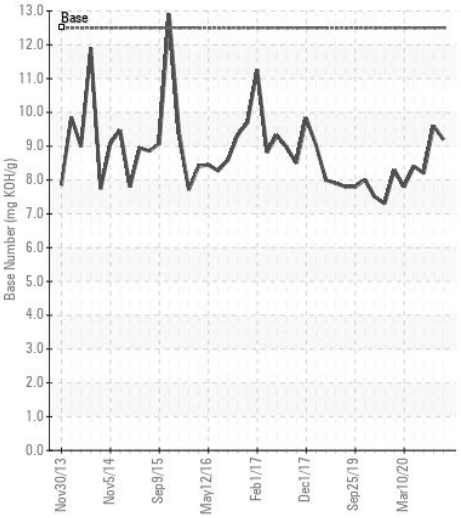

Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : MW0061222
Lab Number : 06150924
Unique Number : 10981002
Test Package : MAR 2

Received : 16 Apr 2024
Tested : 17 Apr 2024
Diagnosed : 17 Apr 2024 - Wes Davis

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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