MAR II

WEAR CHECK Inland Marine Oil Analysis Program

OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Area
DAVID M OLAUGHLIN
Machine Id
[DAVID M OLAUGHLIN] 008 670547-8
Component
Starboard Genset
Fluid
CHEVRON DELO 400 XLE 15W40 (6 GAL)

RECOMMENDATION

Resample at the next service interval to monitor.

WEAR

All component wear rates are normal.

CONTAMINATION

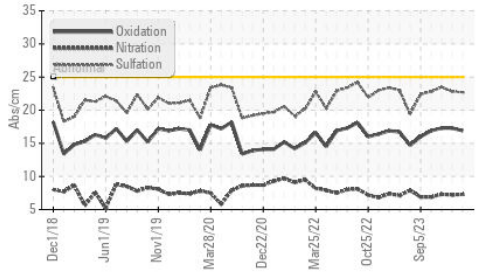
There is no indication of any contamination in the oil.

FLUID CONDITION

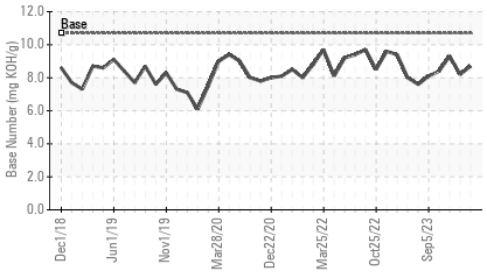
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		MW06196181	MW0043398	MW0043405
Sample Date		Client Info		16 May 2024	15 Mar 2024	13 Jan 2024
Machine Age	hrs	Client Info		41317	40597	39879
Oil Age	hrs	Client Info		401	389	343
Filter Age	hrs	Client Info		0	389	343
Oil Changed		Client Info		N/A	N/A	N/A
Filter Changed		Client Info		N/A	N/A	N/A
Sample Status				NORMAL	NORMAL	NORMAL
Iron	ppm	ASTM D5185m	>50	5	10	8
Chromium	ppm	ASTM D5185m	>4	0	<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	6	3
Lead	ppm	ASTM D5185m	>17	0	<1	0
Copper	ppm	ASTM D5185m	>70	0	<1	<1
Tin	ppm	ASTM D5185m	>15	<1	<1	<1
Vanadium	ppm	ASTM D5185m		0	<1	<1
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Silicon	ppm	ASTM D5185m	>25	6	10	9
Potassium	ppm	ASTM D5185m	>20	0	2	2
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	0.1
Nitration	Abs/cm	*ASTM D7624	>20	7.3	7.2	7.3
Sulfation	Abs/.1mm	*ASTM D7415	>30	22.7	22.8	23.5
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		1	<1	0
Boron	ppm	ASTM D5185m		349	633	348
Barium	ppm	ASTM D5185m		<1	2	1
Molybdenum	ppm	ASTM D5185m		125	180	147
Manganese	ppm	ASTM D5185m		3	2	3
Magnesium	ppm	ASTM D5185m		672	876	686
Calcium	ppm	ASTM D5185m		1655	2516	1593
Phosphorus	ppm	ASTM D5185m	760	818	1259	765
Zinc	ppm	ASTM D5185m	830	955	1545	881
Sulfur	ppm	ASTM D5185m	2770	3078	4723	2743
Oxidation	Abs/.1mm	*ASTM D7414	>25	16.9	17.3	17.3
Base Number (BN)	mg KOH/g	ASTM D2896	10.7	8.7	8.2	9.3
Visc @ 100°C	cSt	ASTM D445	14.9	13.2	12.9	13.1

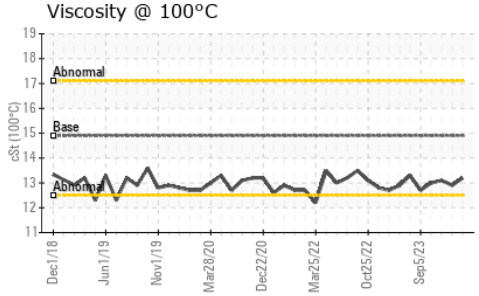
FT-IR (Direct Trend)



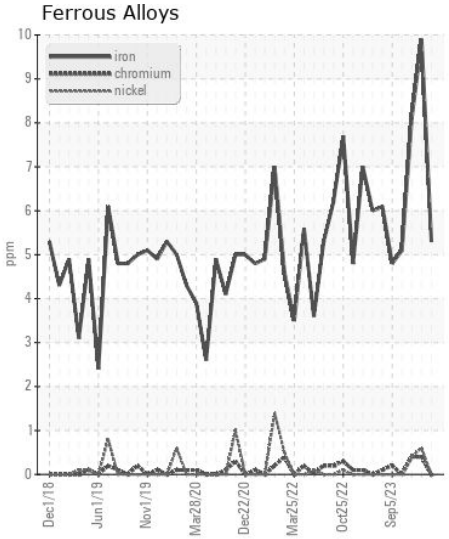
Base Number



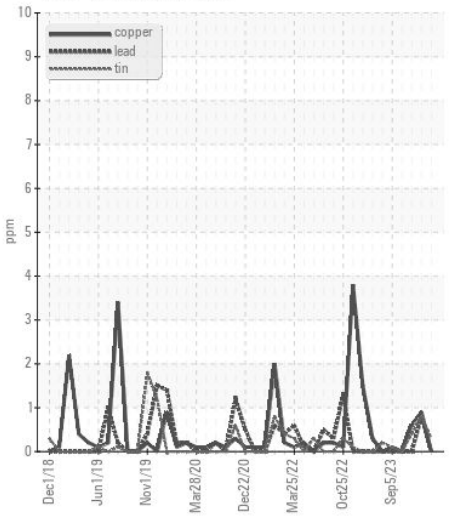
Viscosity @ 100°C



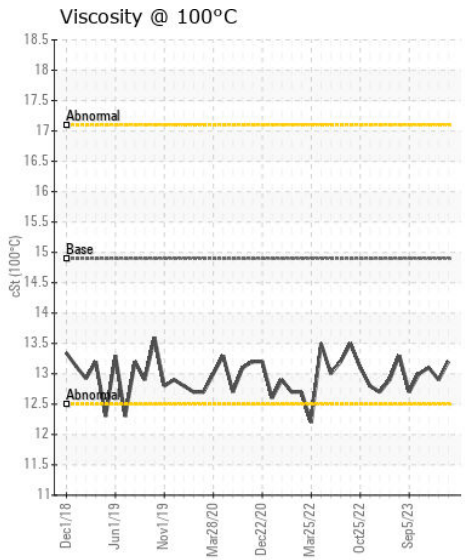
Ferrous Alloys



Non-ferrous Metals



Viscosity @ 100°C



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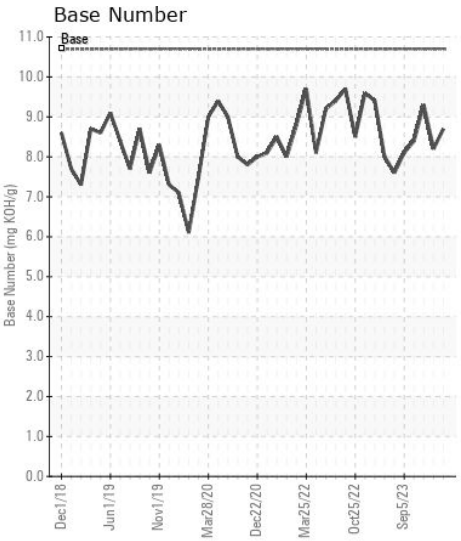

ANAB ACCREDITED ISO/IEC 17025 TESTING LABORATORY
Certificate L2367

Laboratory	: WearCheck USA - 501 Madison Ave., Cary, NC 27513		
Sample No.	: MW06196181	**Received**	: 31 May 2024
Lab Number	: 06196181	**Tested**	: 02 Jun 2024
Unique Number	: 11058304	**Diagnosed**	: 02 Jun 2024 - Wes Davis
Test Package	: MAR 2		

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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