MAR II

WEAR CHECK Inland Marine Oil Analysis Program

OIL ANALYSIS REPORT

WEAR	ABNORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Area
DAVID K WILSON
Machine Id
[DAVID K WILSON] 003 534110-3
Component
Starboard Main Engine
Fluid
CHEVRON DELO 400 XLE 15W40 (50 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

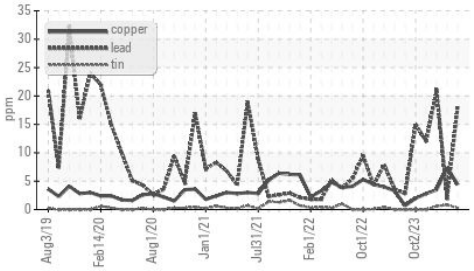
There is no indication of any contamination in the oil.

FLUID CONDITION

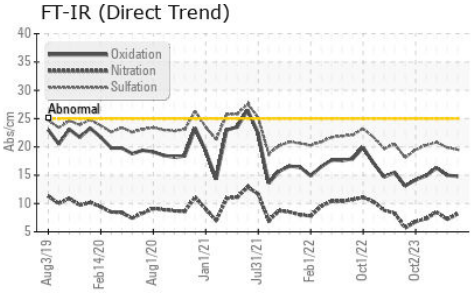
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is acceptable for the time in service.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		MW0018145	MW0066214	MW0041917
Sample Date		Client Info		31 May 2024	01 Feb 2024	07 Jan 2024
Machine Age	hrs	Client Info		26971	24453	0
Oil Age	hrs	Client Info		84	72	0
Filter Age	hrs	Client Info		0	72	0
Oil Changed		Client Info		N/A	Changed	N/A
Filter Changed		Client Info		N/A	N/A	N/A
Sample Status				ABNORMAL	NORMAL	ABNORMAL
Iron	ppm	ASTM D5185m	>75	6	10	7
Chromium	ppm	ASTM D5185m	>8	0	<1	<1
Nickel	ppm	ASTM D5185m	>2	<1	<1	0
Titanium	ppm	ASTM D5185m	>3	4	6	7
Silver	ppm	ASTM D5185m	>2	0	<1	0
Aluminum	ppm	ASTM D5185m	>15	3	1	2
Lead	ppm	ASTM D5185m	>18	▲ 18	2	▲ 21
Copper	ppm	ASTM D5185m	>80	4	7	4
Tin	ppm	ASTM D5185m	>14	<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	>20	5	6	5
Potassium	ppm	ASTM D5185m	>20	4	3	1
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	0.2	0.1
Nitration	Abs/cm	*ASTM D7624	>20	8.2	7.2	8.5
Sulfation	Abs/.1mm	*ASTM D7415	>30	19.5	19.9	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	>75	4	0	1
Boron	ppm	ASTM D5185m		174	199	156
Barium	ppm	ASTM D5185m		0	0	0
Molybdenum	ppm	ASTM D5185m		77	74	74
Manganese	ppm	ASTM D5185m		<1	<1	<1
Magnesium	ppm	ASTM D5185m		512	542	676
Calcium	ppm	ASTM D5185m		2097	1715	1663
Phosphorus	ppm	ASTM D5185m	760	571	561	774
Zinc	ppm	ASTM D5185m	830	642	704	875
Sulfur	ppm	ASTM D5185m	2770	3136	2922	3007
Oxidation	Abs/.1mm	*ASTM D7414	>25	14.8	15.0	16.3
Base Number (BN)	mg KOH/g	ASTM D2896	10.7	10.49	7.8	9.39
Visc @ 100°C	cSt	ASTM D445	14.9	13.2	13.3	13.2

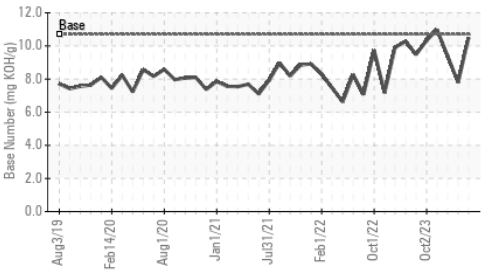
Non-ferrous Metals



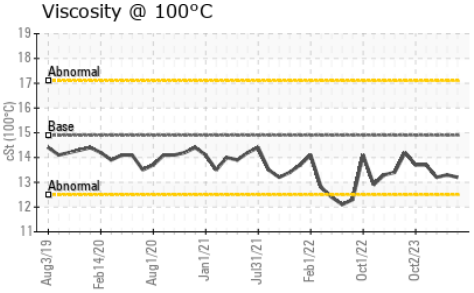
FT-IR (Direct Trend)



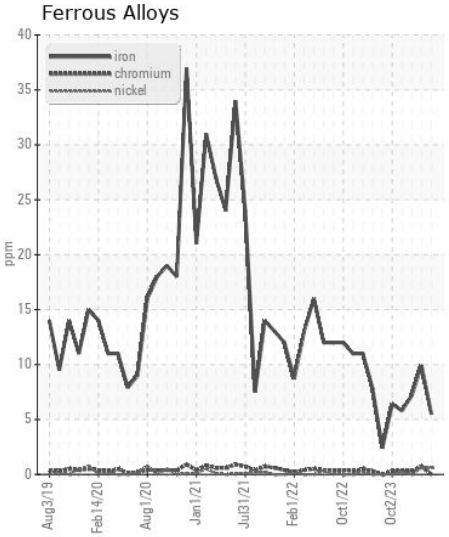
Base Number



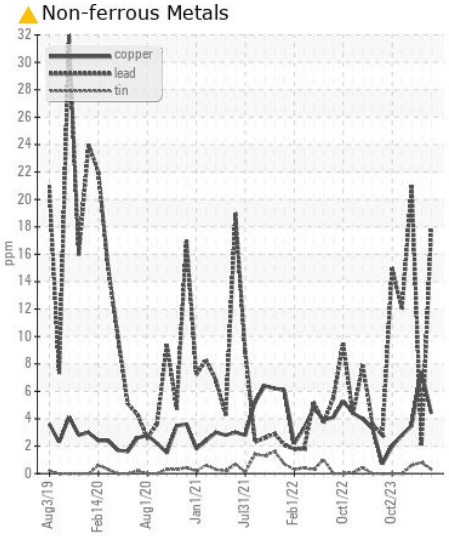
Viscosity @ 100°C



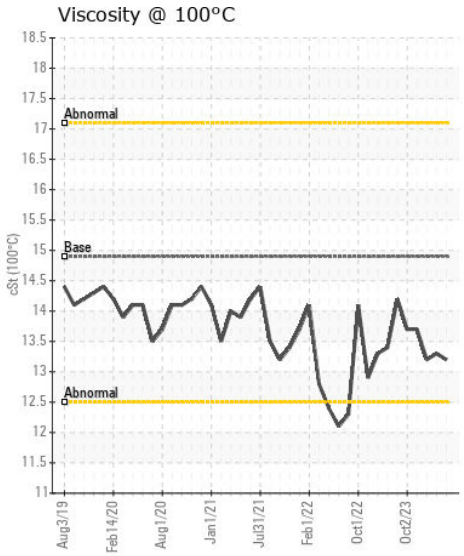
Ferrous Alloys



Non-ferrous Metals



Viscosity @ 100°C



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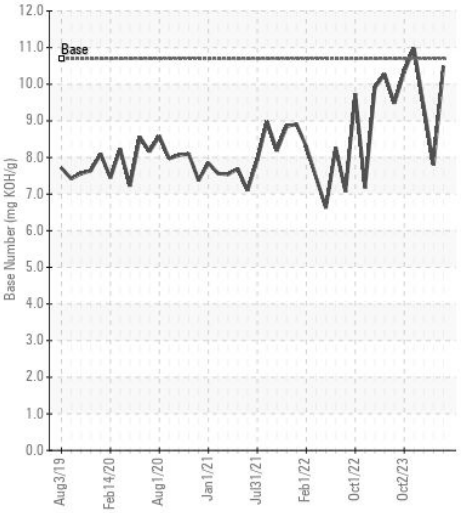

Certificate L2367

Laboratory	: WearCheck USA - 501 Madison Ave., Cary, NC 27513		
Sample No.	: MW0018145	**Received**	: 17 Jun 2024
Lab Number	: 06212559	**Tested**	: 19 Jun 2024
Unique Number	: 11085423	**Diagnosed**	: 19 Jun 2024 - Angela Borella
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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