MAR II

WEAR CHECK Inland Marine Oil Analysis Program

OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Area
DAVID K WILSON
Machine Id
[DAVID K WILSON] 001 534110-1
Component
Port Main Engine
Fluid
CHEVRON DELO 400 XLE 15W40 (50 GAL)

RECOMMENDATION

Resample at the next service interval to monitor.

WEAR

All component wear rates are normal.

CONTAMINATION

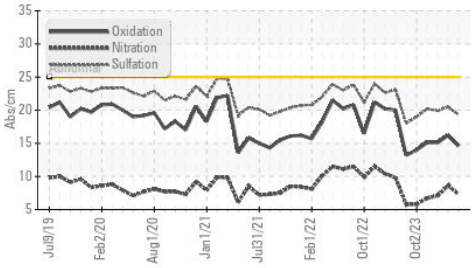
Elevated aluminum (Al) and/or lead (Pb) and potassium (K) levels in your metals analysis are likely a result of solder flux release into the lubricant and is common on new equipment/components. There is no indication of any contamination in the oil.

FLUID CONDITION

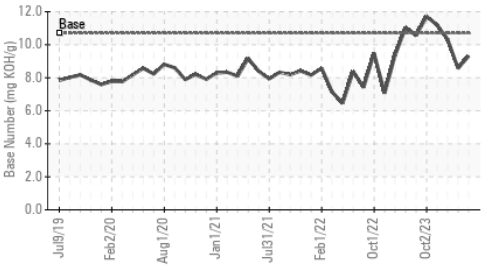
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		MW0018142	MW0066215	MW0041916
Sample Date		Client Info		31 May 2024	01 Feb 2024	07 Jan 2024
Machine Age	hrs	Client Info		6593	3706	0
Oil Age	hrs	Client Info		1021	1055	0
Filter Age	hrs	Client Info		0	1055	0
Oil Changed		Client Info		N/A	N/A	N/A
Filter Changed		Client Info		N/A	N/A	N/A
Sample Status				NORMAL	ABNORMAL	NORMAL
Iron	ppm	ASTM D5185m	>75	6	8	12
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	1	▲ 25	2
Copper	ppm	ASTM D5185m	>80	6	4	6
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	6
Potassium	ppm	ASTM D5185m	>20	3	3	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		0.2	0.1	0.2
Nitration	Abs/cm	*ASTM D7624	>20	7.3	8.6	7.1
Sulfation	Abs/.1mm	*ASTM D7415	>30	19.3	20.5	19.9
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	3	0	1
Boron	ppm	ASTM D5185m		182	171	178
Barium	ppm	ASTM D5185m		0	0	<1
Molybdenum	ppm	ASTM D5185m		77	76	72
Manganese	ppm	ASTM D5185m		<1	<1	<1
Magnesium	ppm	ASTM D5185m		500	543	662
Calcium	ppm	ASTM D5185m		2090	1665	1666
Phosphorus	ppm	ASTM D5185m	760	562	522	780
Zinc	ppm	ASTM D5185m	830	628	711	868
Sulfur	ppm	ASTM D5185m	2770	3035	2658	3030
Oxidation	Abs/.1mm	*ASTM D7414	>25	14.6	16.2	15.1
Base Number (BN)	mg KOH/g	ASTM D2896	10.7	9.31	8.57	10.32
Visc @ 100°C	cSt	ASTM D445	14.9	13.3	13.1	13.3

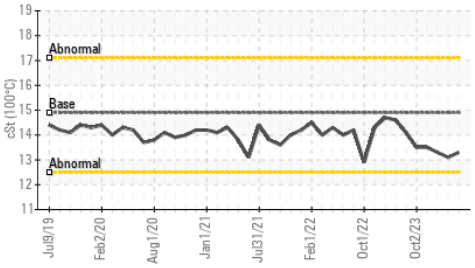
FT-IR (Direct Trend)



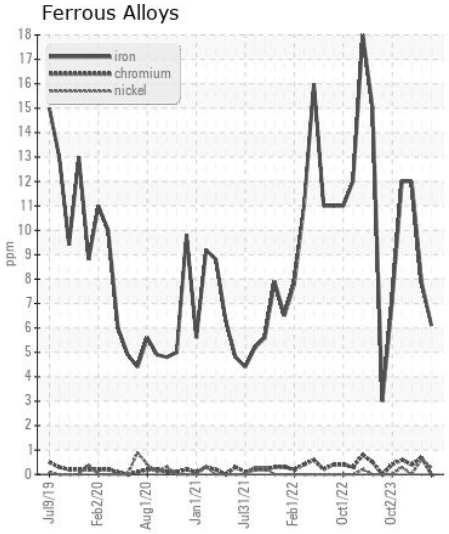
Base Number



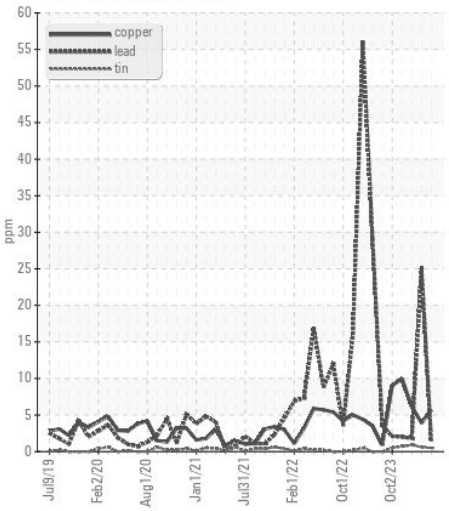
Viscosity @ 100°C



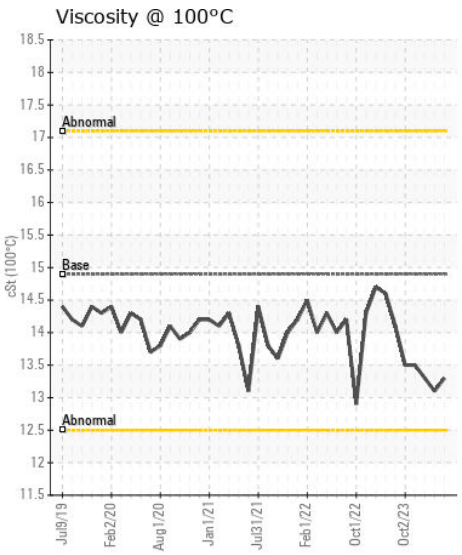
Ferrous Alloys



Non-ferrous Metals



Viscosity @ 100°C



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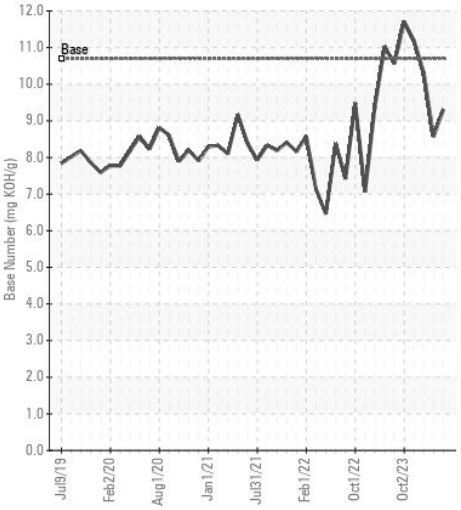

Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : MW0018142
Lab Number : 06212560
Unique Number : 11085424
Test Package : MAR 2

Received : 17 Jun 2024
Tested : 19 Jun 2024
Diagnosed : 19 Jun 2024 - Angela Borella

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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