MAR II

WEAR CHECK Inland Marine Oil Analysis Program

OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	MARGINAL
FLUID CONDITION	NORMAL

Machine Id
LOUISIANA PRIDE
Component
Starboard Main Engine
Fluid
CHEVRON DELO 400 MULTIGRADE 15W40 (37 GAL)

RECOMMENDATION

The oil change at the time of sampling has been noted. Resample at the next service interval to monitor. No other corrective action is recommended at this time.

WEAR

All component wear rates are normal.

CONTAMINATION

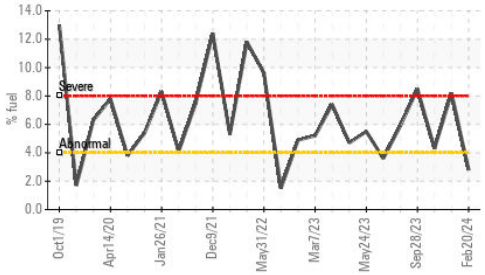
Elevated aluminum (Al) and/or lead (Pb) and potassium (K) levels in your metals analysis are likely a result of solder flux release into the lubricant and is common on new equipment/components. Light fuel dilution occurring. No other contaminants were detected in the oil.

FLUID CONDITION

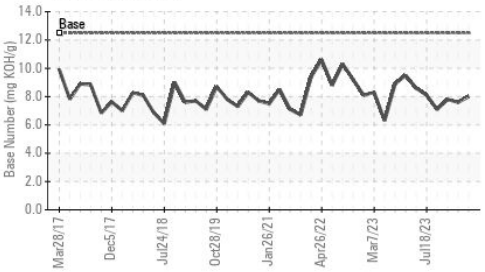
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		MW0057240	MW0003442	MW0042895
Sample Date		Client Info		20 Feb 2024	05 Nov 2023	17 Oct 2023
Machine Age	hrs	Client Info		13182	11755	10657
Oil Age	hrs	Client Info		1429	1508	407
Filter Age	hrs	Client Info		1429	1508	407
Oil Changed		Client Info		Changed	Changed	Not Changd
Filter Changed		Client Info		Changed	Changed	Not Changd
Sample Status				MARGINAL	SEVERE	ABNORMAL
Iron	ppm	ASTM D5185m	>75	15	16	8
Chromium	ppm	ASTM D5185m	>8	<1	<1	<1
Nickel	ppm	ASTM D5185m	>2	<1	0	0
Titanium	ppm	ASTM D5185m	>3	10	10	10
Silver	ppm	ASTM D5185m	>2	0	0	<1
Aluminum	ppm	ASTM D5185m	>15	4	4	2
Lead	ppm	ASTM D5185m	>18	8	2	1
Copper	ppm	ASTM D5185m	>80	3	<1	<1
Tin	ppm	ASTM D5185m	>14	<1	0	<1
Vanadium	ppm	ASTM D5185m		<1	0	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Silicon	ppm	ASTM D5185m	>20	6	3	3
Potassium	ppm	ASTM D5185m	>20	5	<1	3
Fuel	%	ASTM D3524	>4.0	▲ 2.8	▲ 8.2	▲ 4.3
Water		WC Method	>0.1	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844		0.5	0.9	0.4
Nitration	Abs/cm	*ASTM D7624	>20	8.0	10.1	7.7
Sulfation	Abs/.1mm	*ASTM D7415	>30	19.6	20.1	18.4
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	8	4	4
Boron	ppm	ASTM D5185m	151	132	78	102
Barium	ppm	ASTM D5185m	0.4	0	0	0
Molybdenum	ppm	ASTM D5185m	250	43	27	28
Manganese	ppm	ASTM D5185m		1	<1	<1
Magnesium	ppm	ASTM D5185m	0	699	568	556
Calcium	ppm	ASTM D5185m	2046	1873	1533	1553
Phosphorus	ppm	ASTM D5185m	1043	816	663	731
Zinc	ppm	ASTM D5185m	943	1029	818	857
Sulfur	ppm	ASTM D5185m	5012	3492	3069	3034
Oxidation	Abs/.1mm	*ASTM D7414	>25	14.3	15.6	13.4
Base Number (BN)	mg KOH/g	ASTM D2896	12.5	8.0	7.6	7.8
Visc @ 100°C	cSt	ASTM D445	14.4	12.7	▲ 11.5	▲ 12.4

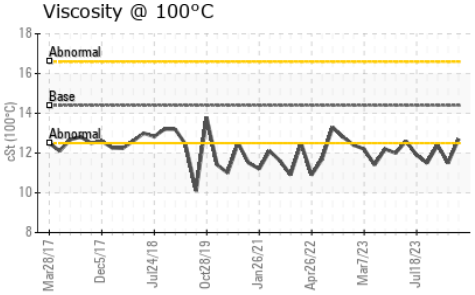
Fuel Dilution



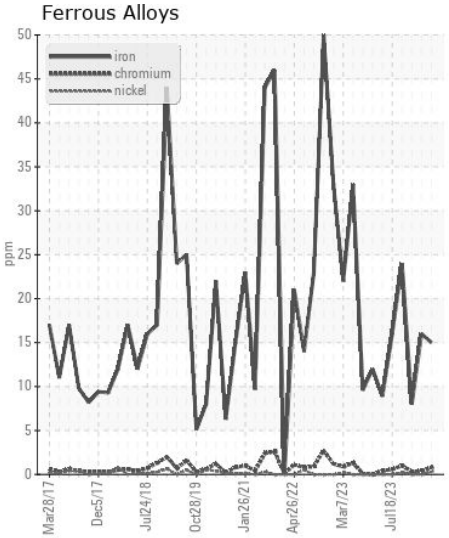
Base Number



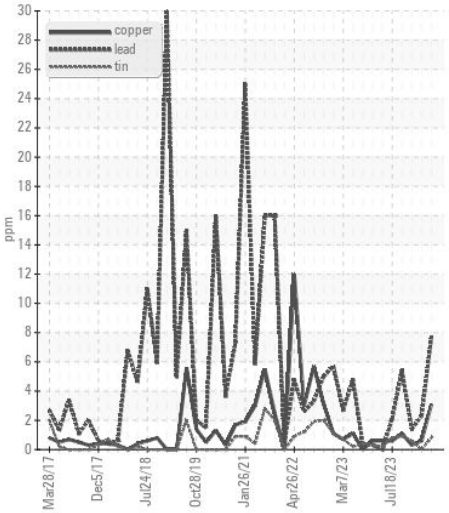
Viscosity @ 100°C



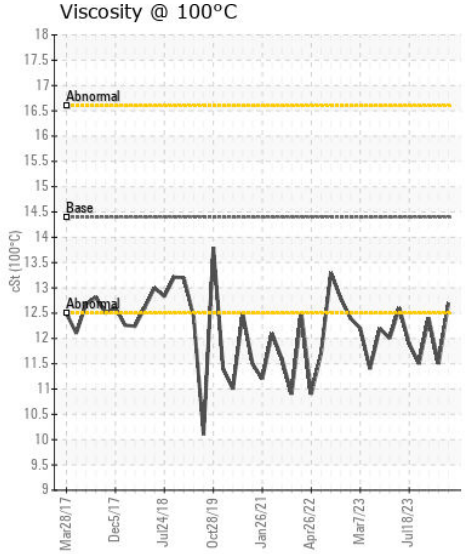
Ferrous Alloys



Non-ferrous Metals



Viscosity @ 100°C



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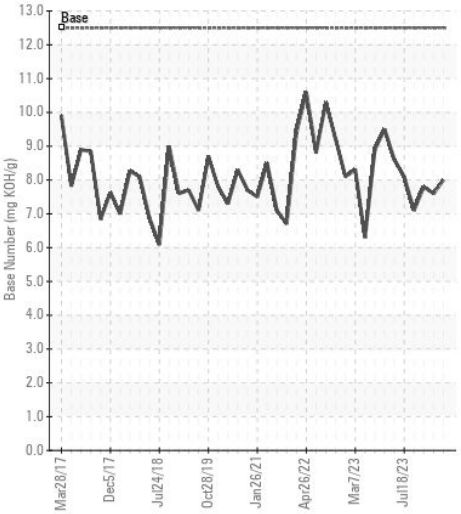

ANAB ACCREDITED ISO/IEC 17025 TESTING LABORATORY
Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : MW0057240
Lab Number : 06104145
Unique Number : 10902375
Test Package : MAR 2 (Additional Tests: PercentFuel)

Received : 29 Feb 2024
Tested : 04 Mar 2024
Diagnosed : 04 Mar 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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