MAR II

WEAR CHECK Inland Marine Oil Analysis Program

OIL ANALYSIS REPORT

WEAR	ABNORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id
LOUISIANA STRONG
Component
Starboard Main Engine
Fluid
CHEVRON DELO 400 MULTIGRADE 15W40 (50 GAL)

RECOMMENDATION

Oil and filter change at the time of sampling has been noted. 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

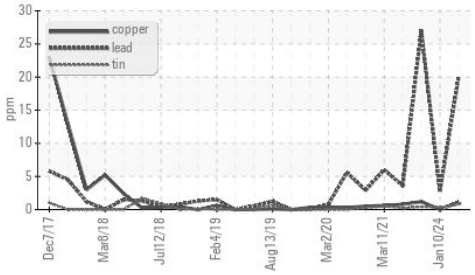
There is no indication of any contamination in the oil.

FLUID CONDITION

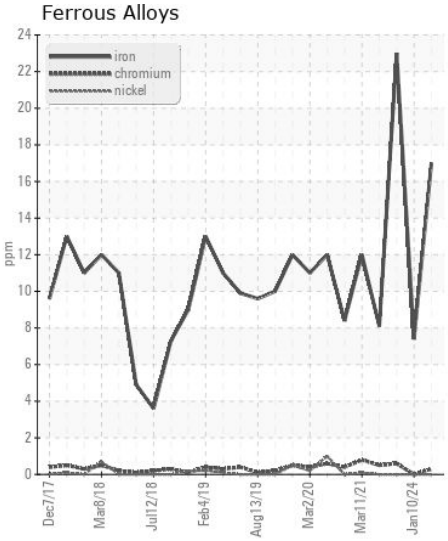
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		MW0042725	MW0057315	MW0042857
Sample Date		Client Info		08 Apr 2024	10 Jan 2024	26 Apr 2023
Machine Age	hrs	Client Info		50666	48722	43437
Oil Age	hrs	Client Info		3690	1732	3800
Filter Age	hrs	Client Info		1900	1732	1900
Oil Changed		Client Info		Changed	Not Changd	Changed
Filter Changed		Client Info		Changed	Changed	Changed
Sample Status				ABNORMAL	NORMAL	ABNORMAL
Iron	ppm	ASTM D5185m	>75	17	7	23
Chromium	ppm	ASTM D5185m	>8	<1	0	<1
Nickel	ppm	ASTM D5185m	>2	0	0	0
Titanium	ppm	ASTM D5185m	>3	12	10	12
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m	>15	1	2	0
Lead	ppm	ASTM D5185m	>18	▲ 20	3	▲ 27
Copper	ppm	ASTM D5185m	>80	1	0	1
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	3	3	5
Potassium	ppm	ASTM D5185m	>20	2	3	4
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		0.8	0.4	0.7
Nitration	Abs/cm	*ASTM D7624	>20	9.3	7.9	8.7
Sulfation	Abs/.1mm	*ASTM D7415	>30	21.0	19.5	19.0
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	10	6	12
Boron	ppm	ASTM D5185m	151	78	110	106
Barium	ppm	ASTM D5185m	0.4	0	0	0
Molybdenum	ppm	ASTM D5185m	250	37	34	51
Manganese	ppm	ASTM D5185m		<1	<1	<1
Magnesium	ppm	ASTM D5185m	0	619	613	622
Calcium	ppm	ASTM D5185m	2046	1775	1617	1668
Phosphorus	ppm	ASTM D5185m	1043	769	797	761
Zinc	ppm	ASTM D5185m	943	874	935	906
Sulfur	ppm	ASTM D5185m	5012	3486	3152	3062
Oxidation	Abs/.1mm	*ASTM D7414	>25	15.3	13.8	14.3
Base Number (BN)	mg KOH/g	ASTM D2896	12.5	7.1	7.8	6.6
Visc @ 100°C	cSt	ASTM D445	14.4	13.9	13.8	13.9

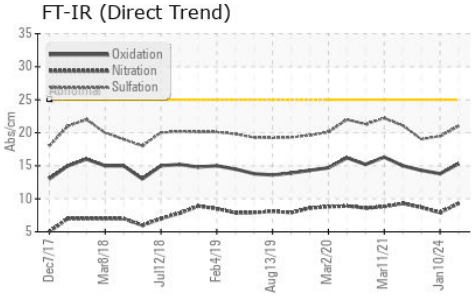
Non-ferrous Metals



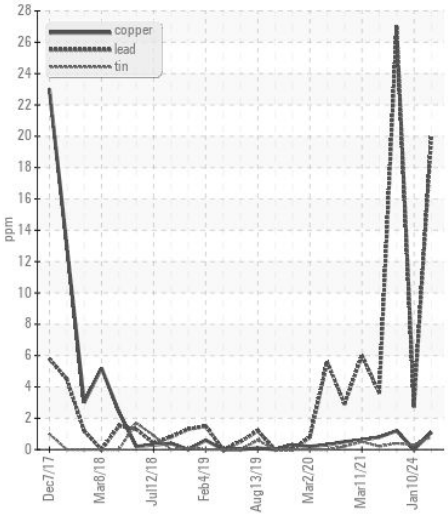
Ferrous Alloys



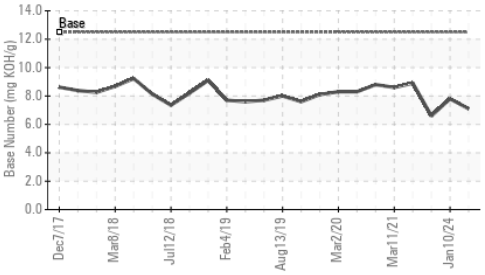
FT-IR (Direct Trend)



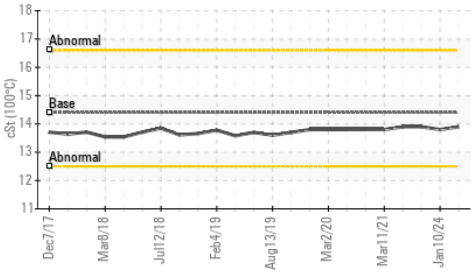
Non-ferrous Metals



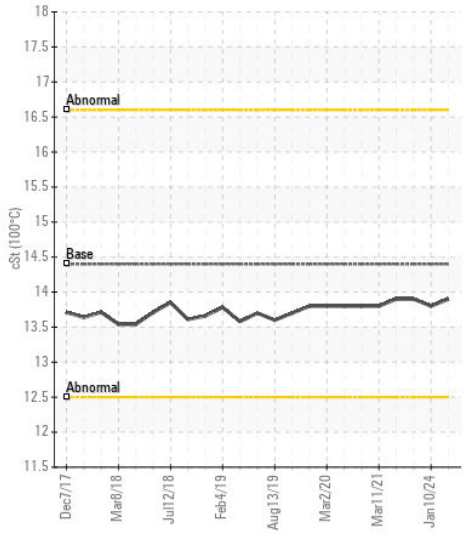
Base Number



Viscosity @ 100°C



Viscosity @ 100°C



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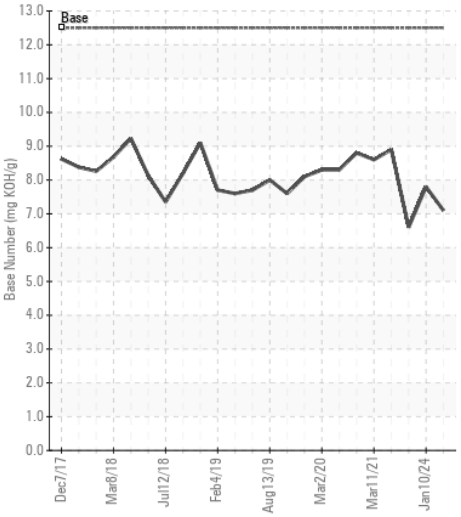

Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : MW0042725
Lab Number : 06153923
Unique Number : 10989346
Test Package : MAR 2

Received : 19 Apr 2024
Tested : 23 Apr 2024
Diagnosed : 23 Apr 2024 - Don Baldridge

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)

AMERICAN RIVER TRANSPORTATION CO
8400 RIVER RD, PO BOX 656
WESTWEGO, LA
US 70094-2317
Contact: KEVIN CHIASSON
kevin.chiasson@adm.com
T:
F: