MAR II

WEAR CHECK Inland Marine Oil Analysis Program

OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Area
LOUISIANA BELLE
Machine Id
LBE
Component
Port Main Engine
Fluid
DIESEL ENGINE OIL SAE 15W40 (--- GAL)

RECOMMENDATION

Resample at the next service interval to monitor.

WEAR

All component wear rates are normal.

CONTAMINATION

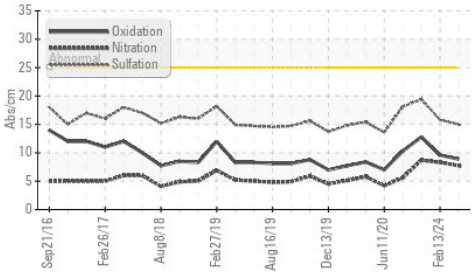
There is no indication of any contamination in the oil.

FLUID CONDITION

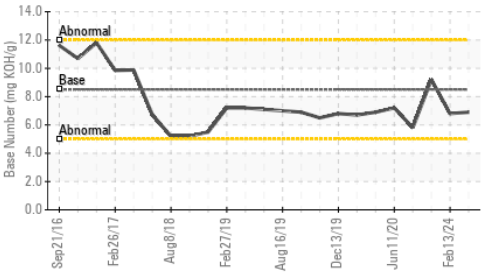
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is acceptable for the time in service.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		MW0065058	MW0065112	MW0054784
Sample Date		Client Info		27 Mar 2024	13 Feb 2024	13 Dec 2023
Machine Age	hrs	Client Info		5933	4954	3494
Oil Age	hrs	Client Info		0	0	0
Filter Age	hrs	Client Info		0	0	0
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	>75	6	8	8
Chromium	ppm	ASTM D5185m	>8	<1	1	<1
Nickel	ppm	ASTM D5185m	>2	0	<1	0
Titanium	ppm	ASTM D5185m	>3	0	<1	0
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m	>15	1	2	2
Lead	ppm	ASTM D5185m	>18	0	<1	0
Copper	ppm	ASTM D5185m	>80	0	<1	<1
Tin	ppm	ASTM D5185m	>14	0	<1	0
Vanadium	ppm	ASTM D5185m		0	<1	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Silicon	ppm	ASTM D5185m	>20	3	4	4
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		0.2	0.2	0.2
Nitration	Abs/cm	*ASTM D7624	>20	7.7	8.3	8.7
Sulfation	Abs/.1mm	*ASTM D7415	>30	15.0	15.8	19.4
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	>158	1	2	0
Boron	ppm	ASTM D5185m	250	48	31	9
Barium	ppm	ASTM D5185m	10	0	34	3
Molybdenum	ppm	ASTM D5185m	100	45	39	11
Manganese	ppm	ASTM D5185m		<1	<1	0
Magnesium	ppm	ASTM D5185m	450	10	7	9
Calcium	ppm	ASTM D5185m	3000	3584	2723	3118
Phosphorus	ppm	ASTM D5185m	1150	<1	38	51
Zinc	ppm	ASTM D5185m	1350	0	29	0
Sulfur	ppm	ASTM D5185m	4250	2745	2017	4528
Oxidation	Abs/.1mm	*ASTM D7414	>25	8.9	9.6	12.8
Base Number (BN)	mg KOH/g	ASTM D2896	8.5	6.9	6.8	9.2
Visc @ 100°C	cSt	ASTM D445	14.4	14.1	14.3	14.3

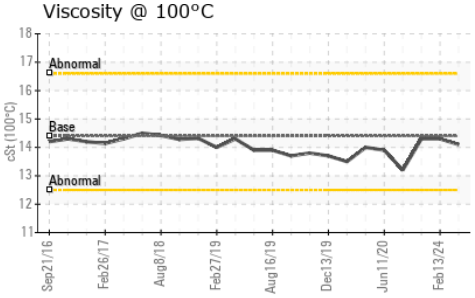
FT-IR (Direct Trend)



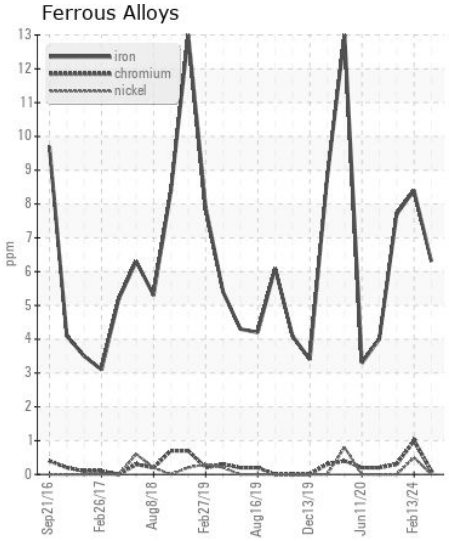
Base Number



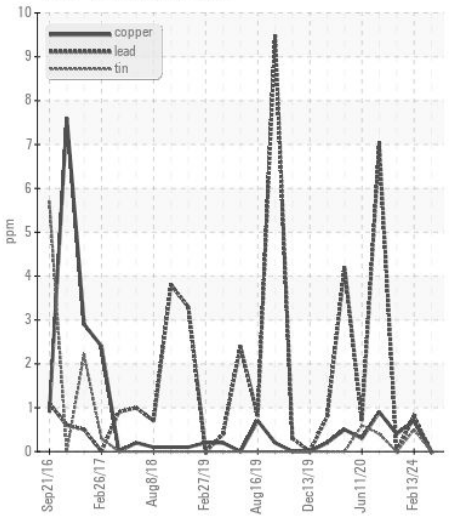
Viscosity @ 100°C



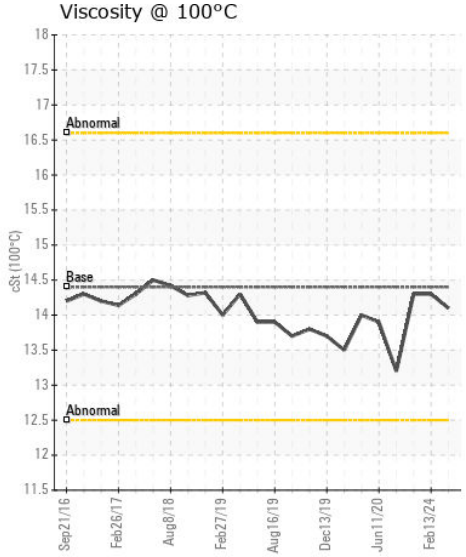
Ferrous Alloys



Non-ferrous Metals



Viscosity @ 100°C



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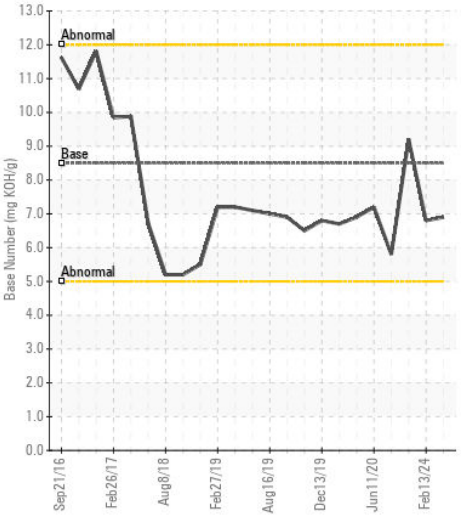

Certificate L2367

Laboratory	: WearCheck USA - 501 Madison Ave., Cary, NC 27513		
Sample No.	: MW0065058	**Received**	: 16 Apr 2024
Lab Number	: 06150056	**Tested**	: 17 Apr 2024
Unique Number	: 10980134	**Diagnosed**	: 18 Apr 2024 - Sean Felton
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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