MAR II

WEAR CHECK Inland Marine Oil Analysis Program

OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Area
LB EDGIN
Machine Id
[LB EDGIN] 003 601230-3
Component
Starboard Main Engine
Fluid
CHEVRON DELO 400 LE 15W40 (20 GAL)

RECOMMENDATION

Resample at the next service interval to monitor.

WEAR

All component wear rates are normal.

CONTAMINATION

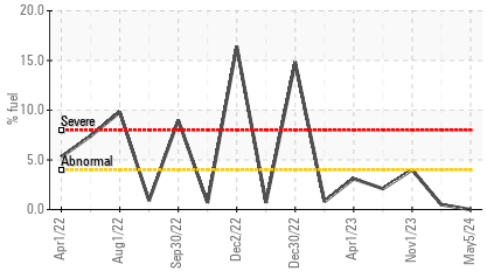
Fuel content negligible. There is no indication of any contamination in the oil.

FLUID CONDITION

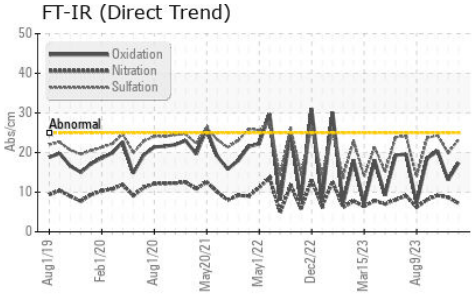
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		MW0055206	MW0054728	MW0055346
Sample Date		Client Info		05 May 2024	01 Nov 2023	01 Nov 2023
Machine Age	hrs	Client Info		13204	2507	12143
Oil Age	hrs	Client Info		298	0	1917
Filter Age	hrs	Client Info		298	0	1917
Oil Changed		Client Info		Not Changd	N/A	Not Changd
Filter Changed		Client Info		Not Changd	N/A	Not Changd
Sample Status				NORMAL	NORMAL	ABNORMAL
Iron	ppm	ASTM D5185m	>75	8	11	8
Chromium	ppm	ASTM D5185m	>8	<1	0	<1
Nickel	ppm	ASTM D5185m	>2	0	0	<1
Titanium	ppm	ASTM D5185m	>3	0	0	0
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m	>15	3	5	3
Lead	ppm	ASTM D5185m	>18	20	0	▲ 32
Copper	ppm	ASTM D5185m	>80	12	2	13
Tin	ppm	ASTM D5185m	>14	0	<1	<1
Vanadium	ppm	ASTM D5185m		0	0	<1
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Silicon	ppm	ASTM D5185m	>20	7	6	7
Potassium	ppm	ASTM D5185m	>20	2	0	<1
Fuel	%	ASTM D3524	>4.0	0.0	0.5	▲ 4.0
Water		WC Method	>0.1	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844		0.1	0.2	0.2
Nitration	Abs/cm	*ASTM D7624	>20	7.2	8.7	9.2
Sulfation	Abs/.1mm	*ASTM D7415	>30	23.2	19.9	24.3
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	0	1	<1
Boron	ppm	ASTM D5185m		389	4	256
Barium	ppm	ASTM D5185m		1	0	0
Molybdenum	ppm	ASTM D5185m		139	5	119
Manganese	ppm	ASTM D5185m		<1	0	<1
Magnesium	ppm	ASTM D5185m		837	12	640
Calcium	ppm	ASTM D5185m		1824	3029	1437
Phosphorus	ppm	ASTM D5185m	1200	816	10	671
Zinc	ppm	ASTM D5185m	1300	1056	0	797
Sulfur	ppm	ASTM D5185m	3200	3615	4097	2463
Oxidation	Abs/.1mm	*ASTM D7414	>25	17.4	13.1	20.4
Base Number (BN)	mg KOH/g	ASTM D2896	9.6	9.41	10.4	6.31
Visc @ 100°C	cSt	ASTM D445	15.7	12.7	14.6	▲ 12.3

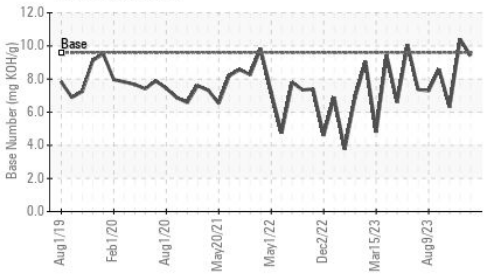
Fuel Dilution



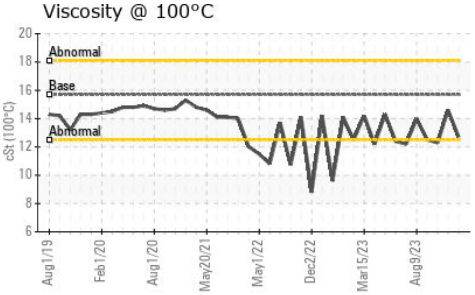
FT-IR (Direct Trend)



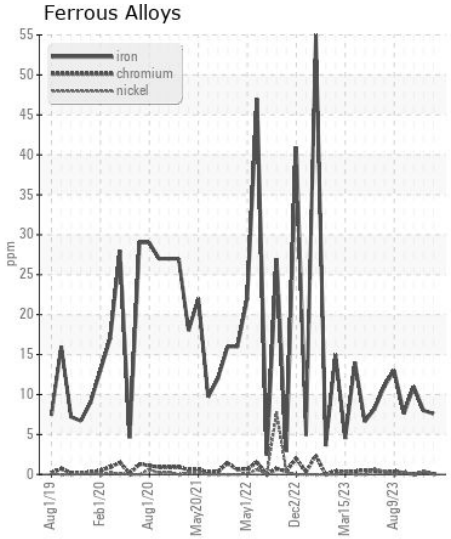
Base Number



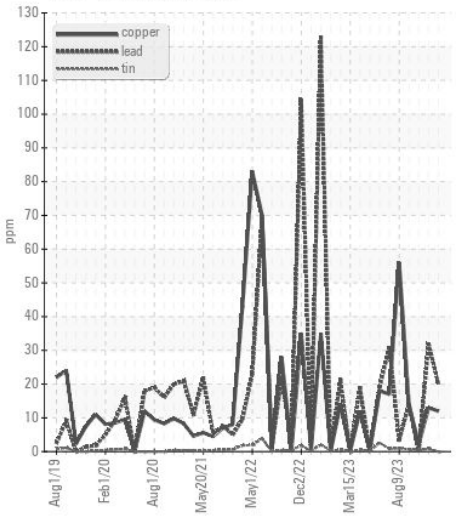
Viscosity @ 100°C



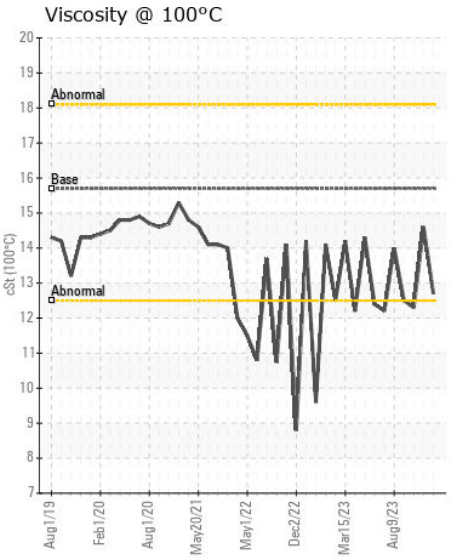
Ferrous Alloys



Non-ferrous Metals



Viscosity @ 100°C



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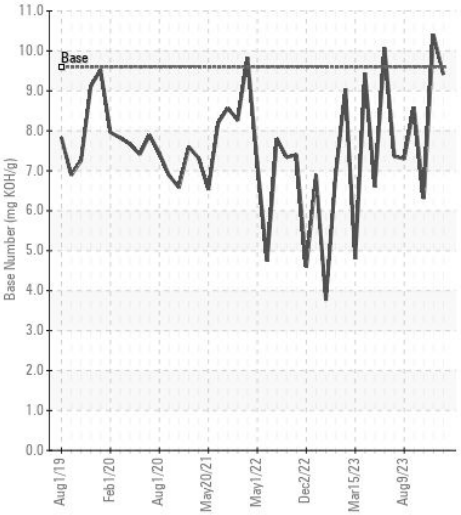

Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : MW0055206 **Received** : 10 May 2024
Lab Number : 06176240 **Tested** : 16 May 2024
Unique Number : 11022293 **Diagnosed** : 16 May 2024 - Jonathan Hester
Test Package : MAR 2 (Additional Tests: FUELDILUTION, PercentFuel)

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)

INGRAM BARGE
900 S 3RD ST
PADUCAH, KY
US 42003
Contact: JOHNNY HINES
johnny.hines@ingrambarge.com
T: (270)415-4467
F: (615)695-3697