MAR II

WEAR CHECK Inland Marine Oil Analysis Program

OIL ANALYSIS REPORT

WEAR	ABNORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id
MV DISCOVERY
Component
Port Genset
Fluid
CHEVRON DELO 400 MULTIGRADE 15W40 (4 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

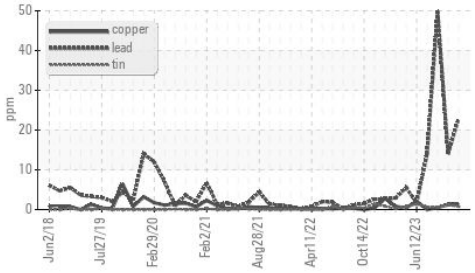
There is no indication of any contamination in the oil.

FLUID CONDITION

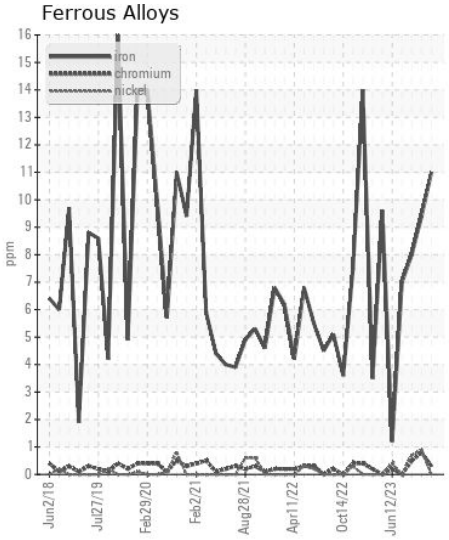
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is acceptable for the time in service.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		MW0069908	MW0045793	MW0056968
Sample Date		Client Info		24 Apr 2024	13 Mar 2024	18 Nov 2023
Machine Age	hrs	Client Info		21230	20699	19277
Oil Age	hrs	Client Info		500	500	500
Filter Age	hrs	Client Info		500	500	500
Oil Changed		Client Info		Changed	Changed	Changed
Filter Changed		Client Info		Changed	Changed	Changed
Sample Status				ABNORMAL	NORMAL	ABNORMAL
Iron	ppm	ASTM D5185m	>50	11	9	8
Chromium	ppm	ASTM D5185m	>4	<1	<1	<1
Nickel	ppm	ASTM D5185m	>2	0	<1	<1
Titanium	ppm	ASTM D5185m		1	<1	0
Silver	ppm	ASTM D5185m	>5	0	0	0
Aluminum	ppm	ASTM D5185m	>12	8	3	5
Lead	ppm	ASTM D5185m	>17	▲ 23	14	▲ 50
Copper	ppm	ASTM D5185m	>70	1	1	<1
Tin	ppm	ASTM D5185m	>15	<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	>25	7	7	6
Potassium	ppm	ASTM D5185m	>20	3	4	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		0.1	0.1	0.1
Nitration	Abs/cm	*ASTM D7624	>20	9.1	8.7	9.7
Sulfation	Abs/.1mm	*ASTM D7415	>30	22.4	22.6	23.4
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		31	0	3
Boron	ppm	ASTM D5185m		333	282	285
Barium	ppm	ASTM D5185m		<1	<1	0
Molybdenum	ppm	ASTM D5185m		132	119	124
Manganese	ppm	ASTM D5185m		<1	<1	<1
Magnesium	ppm	ASTM D5185m		693	672	702
Calcium	ppm	ASTM D5185m		1485	1461	1482
Phosphorus	ppm	ASTM D5185m	1360	746	758	763
Zinc	ppm	ASTM D5185m	1480	878	882	894
Sulfur	ppm	ASTM D5185m		2480	2546	2488
Oxidation	Abs/.1mm	*ASTM D7414	>25	19.1	19.0	21.0
Base Number (BN)	mg KOH/g	ASTM D2896	12.2	8.7	8.5	8.5
Visc @ 100°C	cSt	ASTM D445	15.1	12.7	13.2	13.6

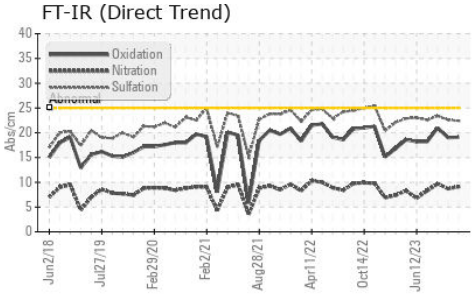
Non-ferrous Metals



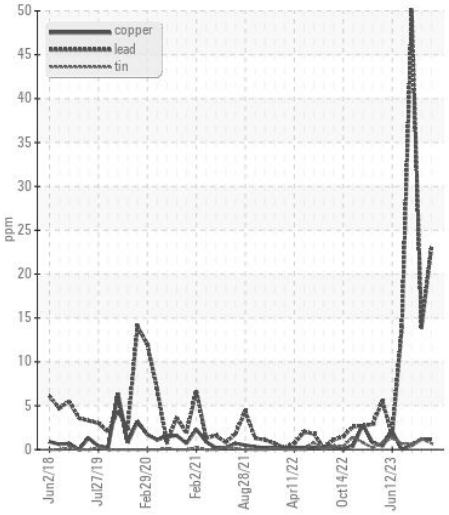
Ferrous Alloys



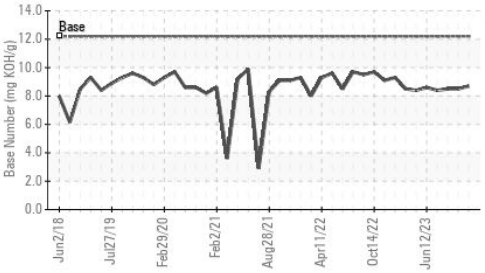
FT-IR (Direct Trend)



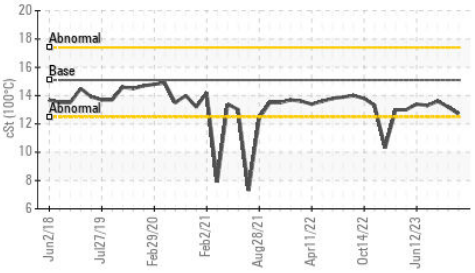
Non-ferrous Metals



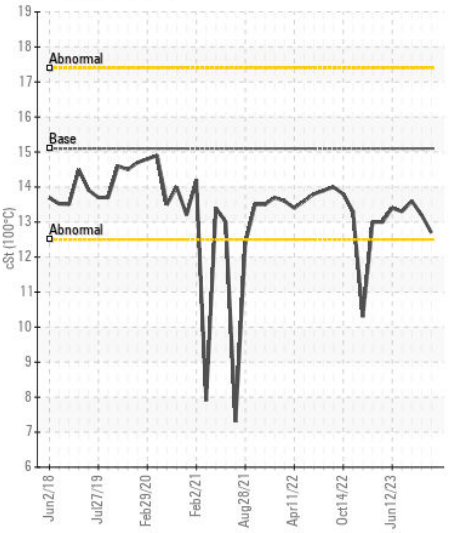
Base Number



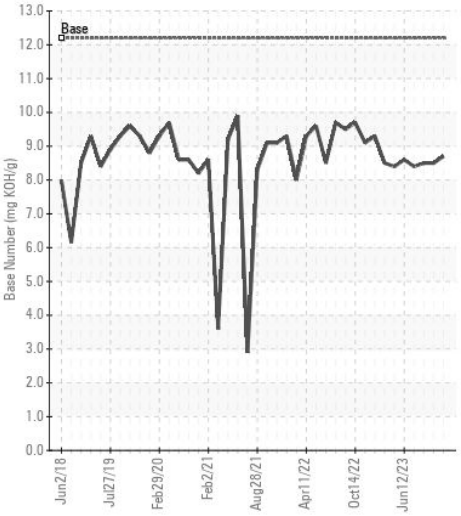
Viscosity @ 100°C



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : MW0069908
Lab Number : 06174901
Unique Number : 11020954
Test Package : MAR 2

Received : 09 May 2024
Tested : 10 May 2024
Diagnosed : 13 May 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)

C & B MARINE
50 E RIVERCENTER BLVD, SUITE 1180
COVINGTON, KY
US 41011
Contact: DAVID WESTRICH
dwestrich@carlislebray.com
T: (812)290-4063
F: (859)655-7504