



WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id
MV DISCOVERY
Component
Starboard Genset
Fluid
CHEVRON DELO 400 MULTIGRADE 15W40 (4 GAL)

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		MW0069909	MW0045794	MW0039024
Sample Date		Client Info		24 Apr 2024	13 Mar 2024	24 Jul 2023
Machine Age	hrs	Client Info		23202	22092	19792
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				NORMAL	NORMAL	ABNORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>50	15	10	7
Chromium	ppm	ASTM D5185m	>4	<1	<1	<1
Nickel	ppm	ASTM D5185m	>2	<1	1	0
Titanium	ppm	ASTM D5185m		1	<1	0
Silver	ppm	ASTM D5185m	>5	0	0	0
Aluminum	ppm	ASTM D5185m	>12	11	4	3
Lead	ppm	ASTM D5185m	>17	2	2	0
Copper	ppm	ASTM D5185m	>70	2	1	0
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

CONTAMINATION

There is no indication of any contamination in the oil.

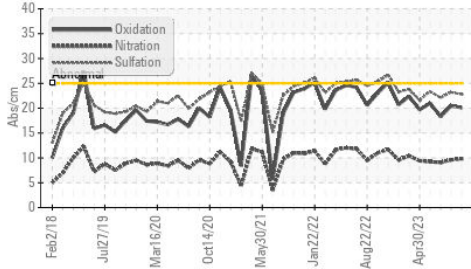
Silicon	ppm	ASTM D5185m	>25	7	10	6
Potassium	ppm	ASTM D5185m	>20	2	4	3
Fuel		WC Method	>4.0	<1.0	0.3	▲ 5.6
Water		WC Method	>0.1	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844		0.1	0.1	0.1
Nitration	Abs/cm	*ASTM D7624	>20	9.8	9.6	9.1
Sulfation	Abs/.1mm	*ASTM D7415	>30	22.8	23.2	22.1
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

FLUID CONDITION

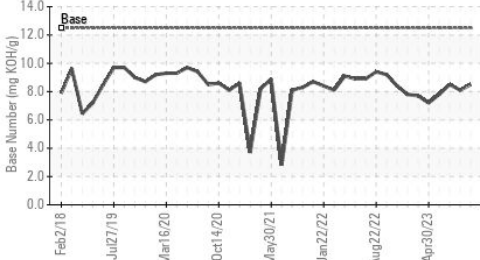
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m		17	5	4
Boron	ppm	ASTM D5185m	151	331	280	257
Barium	ppm	ASTM D5185m	0.4	<1	<1	0
Molybdenum	ppm	ASTM D5185m	250	133	125	125
Manganese	ppm	ASTM D5185m		<1	<1	<1
Magnesium	ppm	ASTM D5185m	0	724	677	721
Calcium	ppm	ASTM D5185m	2046	1549	1505	1548
Phosphorus	ppm	ASTM D5185m	1043	813	743	726
Zinc	ppm	ASTM D5185m	943	944	874	878
Sulfur	ppm	ASTM D5185m	5012	2732	2420	2847
Oxidation	Abs/.1mm	*ASTM D7414	>25	20.1	20.5	18.3
Base Number (BN)	mg KOH/g	ASTM D2896	12.5	8.5	8.1	8.5
Visc @ 100°C	cSt	ASTM D445	14.4	13.0	13.5	▲ 12.4

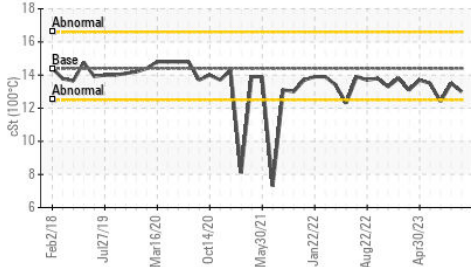
FT-IR (Direct Trend)



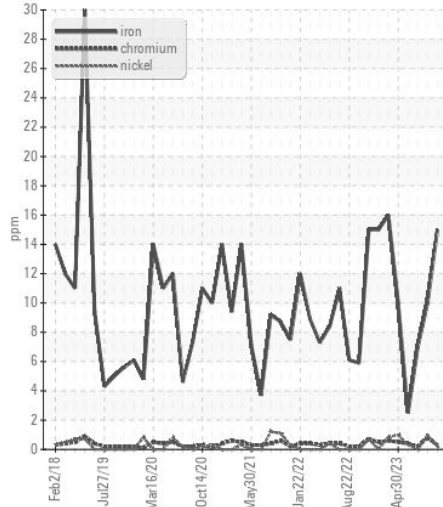
Base Number



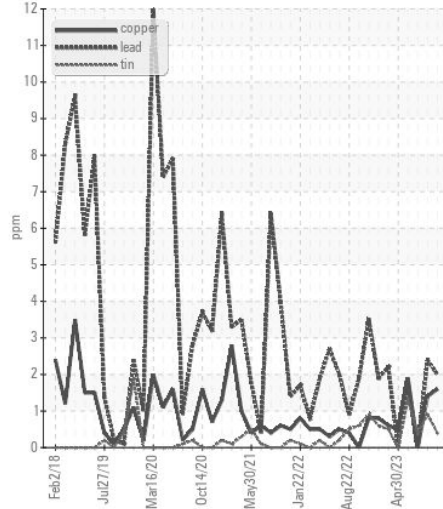
Viscosity @ 100°C



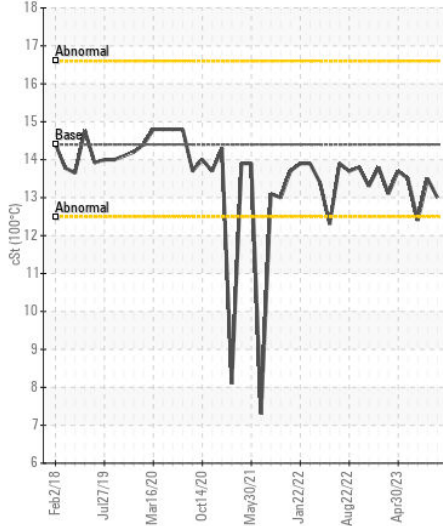
Ferrous Alloys



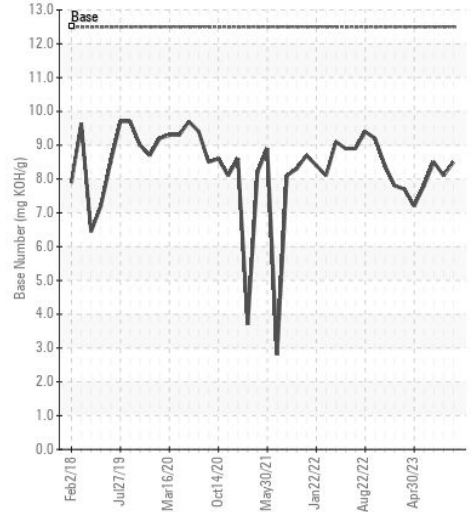
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : MW0069909
Lab Number : 06174900
Unique Number : 11020953
Test Package : MAR 2

Received : 09 May 2024
Tested : 10 May 2024
Diagnosed : 10 May 2024 - Wes Davis

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

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)