



WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id
EMD KELLY LEE
Component
Starboard Main Engine
Fluid
CHEVRON DELO 710 LE (285 GAL)

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		MW0067048	MW0067053	MW0066975
Sample Date		Client Info		23 Jun 2024	28 May 2024	09 May 2024
Machine Age	hrs	Client Info		18566	500	17612
Oil Age	hrs	Client Info		1500	500	500
Filter Age	hrs	Client Info		1500	500	500
Oil Changed		Client Info		N/A	Not Changd	Not Changd
Filter Changed		Client Info		N/A	N/A	Not Changd
Sample Status				NORMAL	NORMAL	NORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>75	10	10	10
Chromium	ppm	ASTM D5185m	>8	<1	<1	<1
Nickel	ppm	ASTM D5185m	>2	0	0	0
Titanium	ppm	ASTM D5185m	>3	0	<1	<1
Silver	ppm	ASTM D5185m	>2	0	0	<1
Aluminum	ppm	ASTM D5185m	>15	2	2	3
Lead	ppm	ASTM D5185m	>18	<1	<1	2
Copper	ppm	ASTM D5185m	>80	8	10	9
Tin	ppm	ASTM D5185m	>14	2	2	2
Vanadium	ppm	ASTM D5185m		0	<1	<1
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.

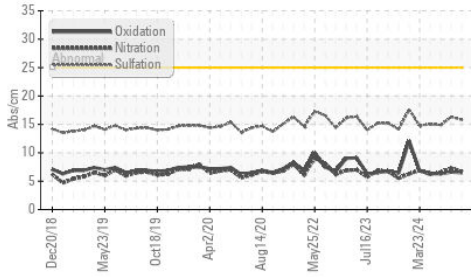
Silicon	ppm	ASTM D5185m	>20	2	2	4
Potassium	ppm	ASTM D5185m	>20	<1	0	5
Fuel		WC Method	>4.0	<1.0	<1.0	<1.0
Water		WC Method	>0.1	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>3	1.3	1.6	1.1
Nitration	Abs/cm	*ASTM D7624	>20	6.7	7.3	6.5
Sulfation	Abs/.1mm	*ASTM D7415	>30	15.8	16.3	14.9
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

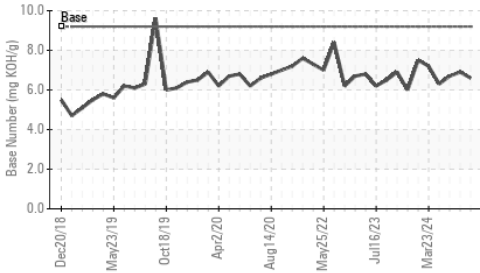
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m	>75	0	<1	<1
Boron	ppm	ASTM D5185m		40	36	46
Barium	ppm	ASTM D5185m		0	0	0
Molybdenum	ppm	ASTM D5185m		40	43	45
Manganese	ppm	ASTM D5185m		<1	<1	0
Magnesium	ppm	ASTM D5185m		0	41	58
Calcium	ppm	ASTM D5185m		3218	3341	3224
Phosphorus	ppm	ASTM D5185m		5	33	58
Zinc	ppm	ASTM D5185m	10	5	34	52
Sulfur	ppm	ASTM D5185m		2206	2484	2467
Oxidation	Abs/.1mm	*ASTM D7414	>25	6.5	6.6	6.3
Base Number (BN)	mg KOH/g	ASTM D2896	9.2	6.6	6.9	6.7
Visc @ 100°C	cSt	ASTM D445	15.5	13.94	13.8	13.9

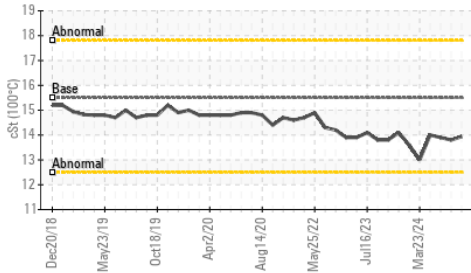
FT-IR (Direct Trend)



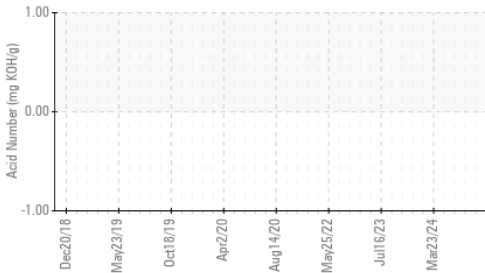
Base Number



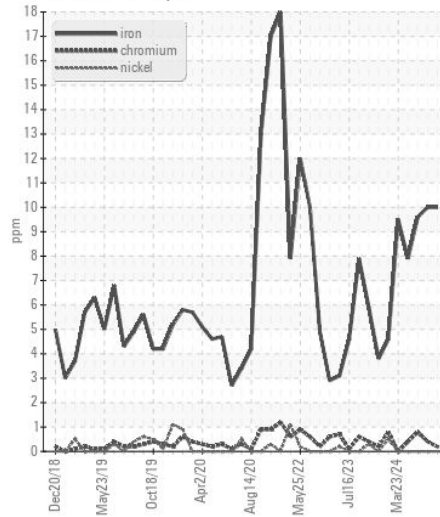
Viscosity @ 100°C



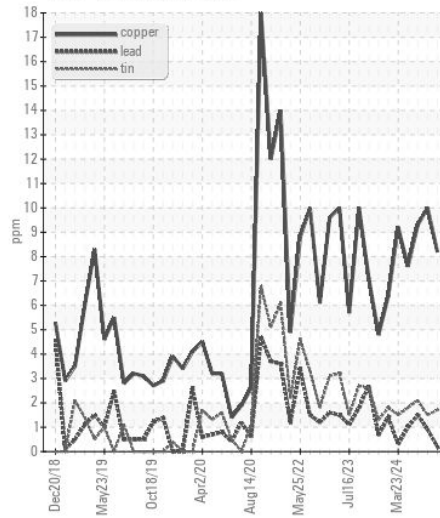
Acid Number



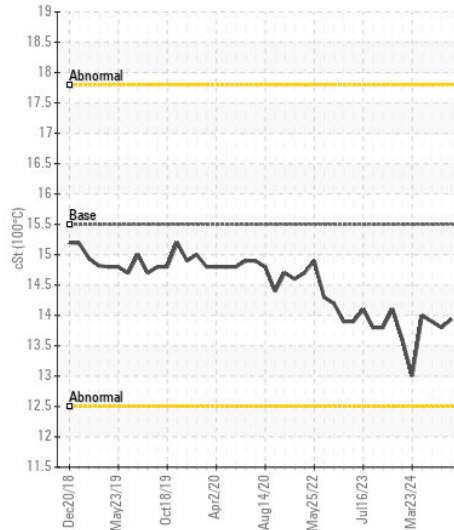
Ferrous Alloys



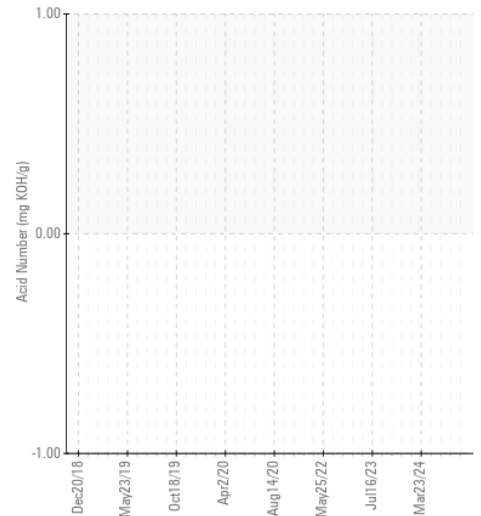
Non-ferrous Metals



Viscosity @ 100°C



Acid Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513

Sample No. : MW0067048

Lab Number : 06225612

Unique Number : 11103809

Test Package : MAR 2 (Additional Tests: TAN Man)

Received : 01 Jul 2024

Tested : 08 Jul 2024

Diagnosed : 08 Jul 2024 - Jonathan Hester

MAGNOLIA MARINE TRANSPORT

697 HAINING ROAD

VICKSBURG, MS

US 39183

Contact: MMT MAINTENANCE PLANNERS

mmtmaintenanceplanners@ergon.com

T: x:

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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