



WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Area
DICK TOMAYKO
Machine Id
[DICK TOMAYKO] 003 640890-3
Component
Starboard Main Engine
Fluid
CHEVRON DELO 400 LE 15W40 (--- GAL)

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		MW0065734	MW0055142	MW0055139
Sample Date		Client Info		22 Jun 2024	01 Oct 2023	01 Sep 2023
Machine Age	hrs	Client Info		0	46218	45402
Oil Age	hrs	Client Info		0	1986	1171
Filter Age	hrs	Client Info		0	43	782
Oil Changed		Client Info		Changed	N/A	Not Changd
Filter Changed		Client Info		Changed	N/A	Not Changd
Sample Status				NORMAL	NORMAL	NORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>75	4	5	3
Chromium	ppm	ASTM D5185m	>8	<1	<1	<1
Nickel	ppm	ASTM D5185m	>2	0	<1	0
Titanium	ppm	ASTM D5185m	>3	<1	0	0
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m	>15	3	15	2
Lead	ppm	ASTM D5185m	>18	0	0	0
Copper	ppm	ASTM D5185m	>80	1	2	1
Tin	ppm	ASTM D5185m	>14	0	0	0
Vanadium	ppm	ASTM D5185m		0	<1	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

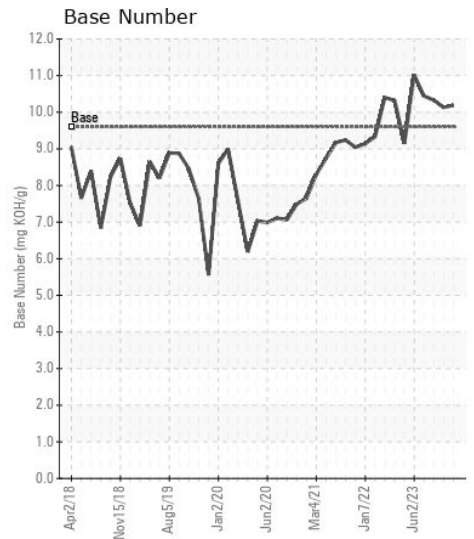
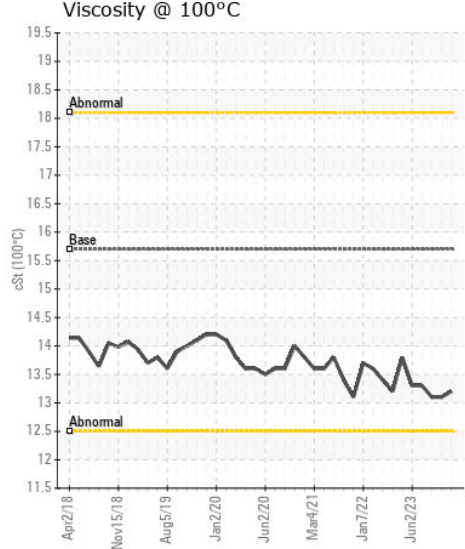
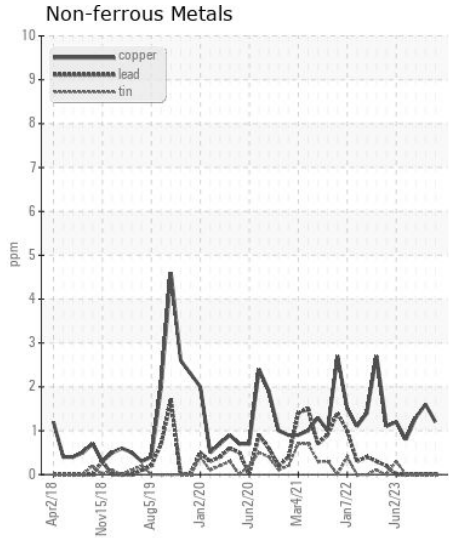
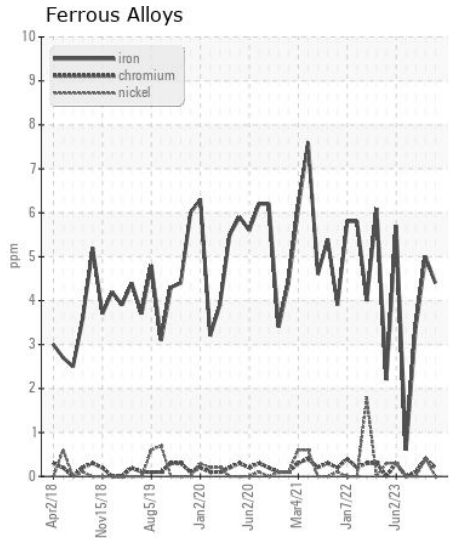
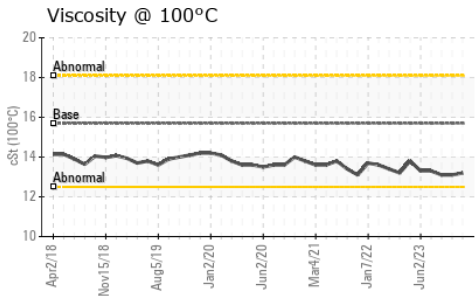
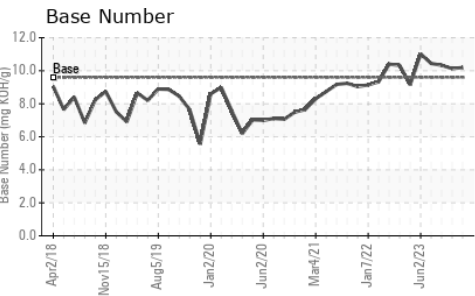
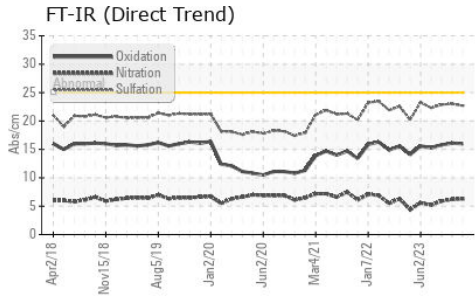
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>20	7	9	6
Potassium	ppm	ASTM D5185m	>20	2	2	1
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	6.3	6.2	5.9
Sulfation	Abs/.1mm	*ASTM D7415	>30	22.7	23.0	22.9
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	<1	2	0
Boron	ppm	ASTM D5185m		320	431	349
Barium	ppm	ASTM D5185m		0	0	2
Molybdenum	ppm	ASTM D5185m		130	191	130
Manganese	ppm	ASTM D5185m		0	<1	<1
Magnesium	ppm	ASTM D5185m		636	914	626
Calcium	ppm	ASTM D5185m		1507	2089	1533
Phosphorus	ppm	ASTM D5185m	1200	707	998	691
Zinc	ppm	ASTM D5185m	1300	834	1200	808
Sulfur	ppm	ASTM D5185m	3200	2488	4270	2585
Oxidation	Abs/.1mm	*ASTM D7414	>25	16.0	16.1	15.8
Base Number (BN)	mg KOH/g	ASTM D2896	9.6	10.19	10.13	10.33
Visc @ 100°C	cSt	ASTM D445	15.7	13.2	13.1	13.1



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : MW0065734
Lab Number : 06230893
Unique Number : 11114386
Test Package : MAR 2
Received : 08 Jul 2024
Tested : 10 Jul 2024
Diagnosed : 10 Jul 2024 - Wes Davis

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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)