



WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Area
DANIEL T MARTIN
Machine Id
[DANIEL T MARTIN] 003 608537-3
Component
Starboard Main Engine
Fluid
CHEVRON DELO 710 LE (250 GAL)

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		MW0055279	MW0055285	MW0060204
Sample Date		Client Info		01 Feb 2024	01 Jan 2024	01 Aug 2023
Machine Age	hrs	Client Info		37037	36000	35673
Oil Age	hrs	Client Info		0	0	470
Filter Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		Not Chngd	Not Chngd	Not Chngd
Filter Changed		Client Info		Changed	Changed	N/A
Sample Status				NORMAL	NORMAL	NORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>75	10	12	5
Chromium	ppm	ASTM D5185m	>8	<1	<1	<1
Nickel	ppm	ASTM D5185m	>2	<1	<1	<1
Titanium	ppm	ASTM D5185m	>3	0	<1	0
Silver	ppm	ASTM D5185m	>2	0	0	<1
Aluminum	ppm	ASTM D5185m	>15	2	2	2
Lead	ppm	ASTM D5185m	>18	6	9	4
Copper	ppm	ASTM D5185m	>80	11	13	8
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

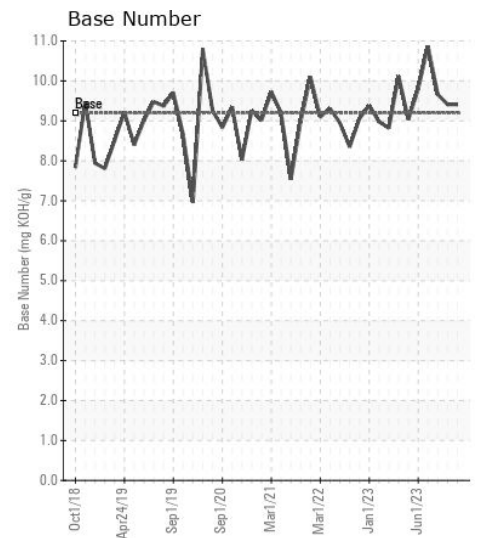
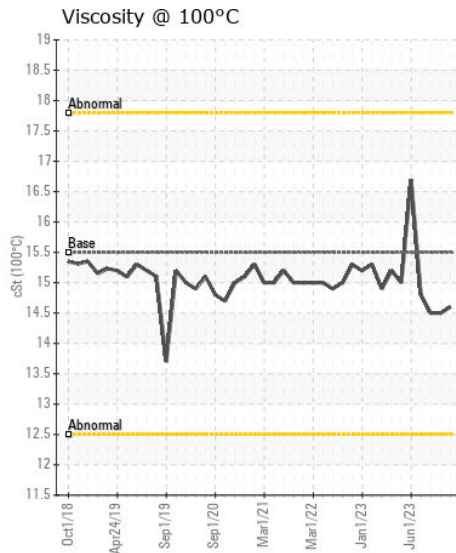
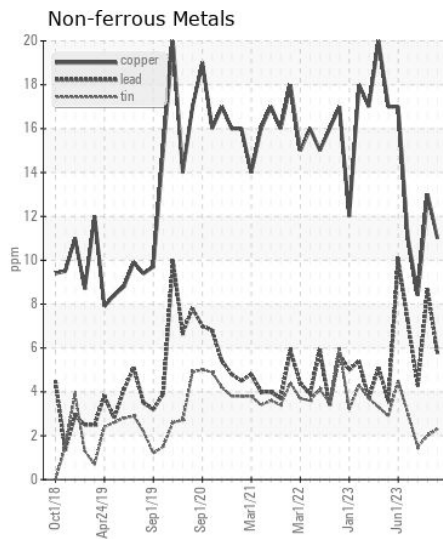
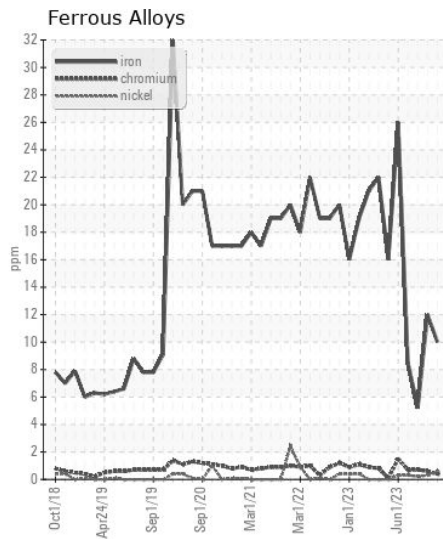
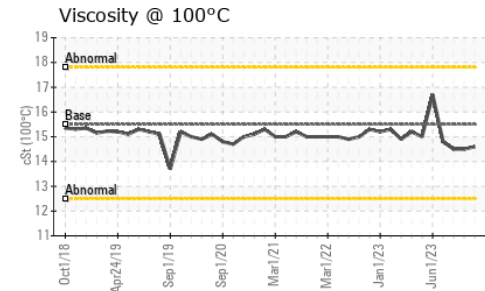
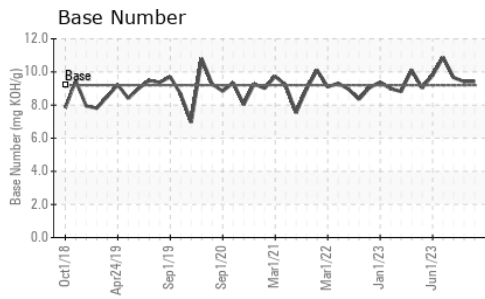
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>20	4	5	4
Potassium	ppm	ASTM D5185m	>20	1	2	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		0.5	0.4	0.4
Nitration	Abs/cm	*ASTM D7624	>20	7.6	7.2	7.0
Sulfation	Abs/.1mm	*ASTM D7415	>30	15.9	15.4	15.3
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

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	12	15	11
Boron	ppm	ASTM D5185m		39	48	45
Barium	ppm	ASTM D5185m		0	2	0
Molybdenum	ppm	ASTM D5185m		40	46	47
Manganese	ppm	ASTM D5185m		<1	<1	<1
Magnesium	ppm	ASTM D5185m		15	11	9
Calcium	ppm	ASTM D5185m		3174	3511	3681
Phosphorus	ppm	ASTM D5185m		3	17	1
Zinc	ppm	ASTM D5185m	10	0	0	0
Sulfur	ppm	ASTM D5185m		2147	2597	2564
Oxidation	Abs/.1mm	*ASTM D7414	>25	7.9	7.4	7.6
Base Number (BN)	mg KOH/g	ASTM D2896	9.2	9.41	9.41	9.66
Visc @ 100°C	cSt	ASTM D445	15.5	14.6	14.5	14.5



Certificate L2367

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

Sample No. : MW0055279

Lab Number : 06098658

Unique Number : 10896888

Test Package : MAR 2

Received : 23 Feb 2024

Tested : 26 Feb 2024

Diagnosed : 26 Feb 2024 - Wes Davis

INGRAM BARGE

900 S 3RD ST

PADUCAH, KY

US 42003

Contact: MVJPA

mvjpa@ingrambarga.com

T:

F: (615)695-3697

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)