



WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Area
BRIAN A NAPACK
Machine Id
[BRIAN A NAPACK] 003 640349-3
Component
Starboard Main Engine
Fluid
CHEVRON DELO 710 LE (335 LTR)

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		MW0068268	MW0068340	MW0068338
Sample Date		Client Info		28 May 2024	30 Mar 2024	01 Mar 2024
Machine Age	hrs	Client Info		77033	76245	75563
Oil Age	hrs	Client Info		77033	76245	0
Filter Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		N/A	N/A	N/A
Filter Changed		Client Info		N/A	N/A	N/A
Sample Status				NORMAL	NORMAL	NORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>75	15	16	15
Chromium	ppm	ASTM D5185m	>8	2	2	<1
Nickel	ppm	ASTM D5185m	>2	<1	1	0
Titanium	ppm	ASTM D5185m	>3	<1	<1	0
Silver	ppm	ASTM D5185m	>2	1	0	0
Aluminum	ppm	ASTM D5185m	>15	2	2	1
Lead	ppm	ASTM D5185m	>18	6	6	5
Copper	ppm	ASTM D5185m	>80	29	35	29
Tin	ppm	ASTM D5185m	>14	5	6	4
Vanadium	ppm	ASTM D5185m		<1	<1	0
White Metal	scalar	*Visual	NONE	NONE	LIGHT	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

There is no indication of any contamination in the oil.

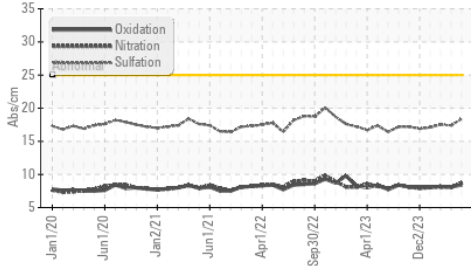
Silicon	ppm	ASTM D5185m	>20	5	5	4
Potassium	ppm	ASTM D5185m	>20	2	2	0
Fuel		WC Method	>4.0	<1.0	<1.0	<1.0
Water		WC Method	>0.1	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>3	1.4	1.2	1.1
Nitration	Abs/cm	*ASTM D7624	>20	8.7	8.1	8.1
Sulfation	Abs/.1mm	*ASTM D7415	>30	18.4	17.4	17.5
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

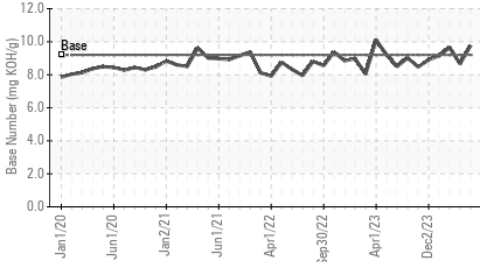
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m	>75	5	5	4
Boron	ppm	ASTM D5185m		42	45	38
Barium	ppm	ASTM D5185m		0	0	0
Molybdenum	ppm	ASTM D5185m		43	48	46
Manganese	ppm	ASTM D5185m		2	3	1
Magnesium	ppm	ASTM D5185m		25	13	14
Calcium	ppm	ASTM D5185m		3033	3496	3682
Phosphorus	ppm	ASTM D5185m		23	15	6
Zinc	ppm	ASTM D5185m	10	19	8	5
Sulfur	ppm	ASTM D5185m		2347	2431	2845
Oxidation	Abs/.1mm	*ASTM D7414	>25	8.4	8.1	8.2
Base Number (BN)	mg KOH/g	ASTM D2896	9.2	9.77	8.66	9.64
Visc @ 100°C	cSt	ASTM D445	15.5	14.33	14.2	14.2

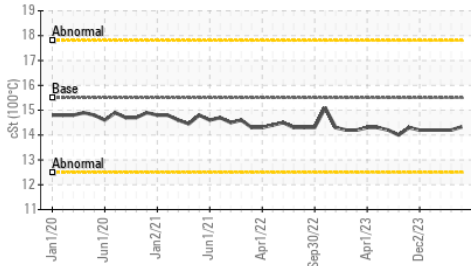
FT-IR (Direct Trend)



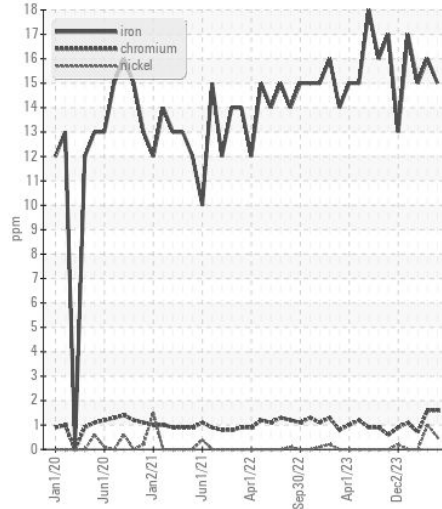
Base Number



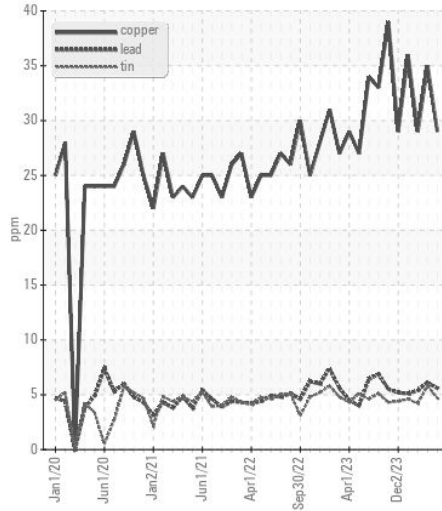
Viscosity @ 100°C



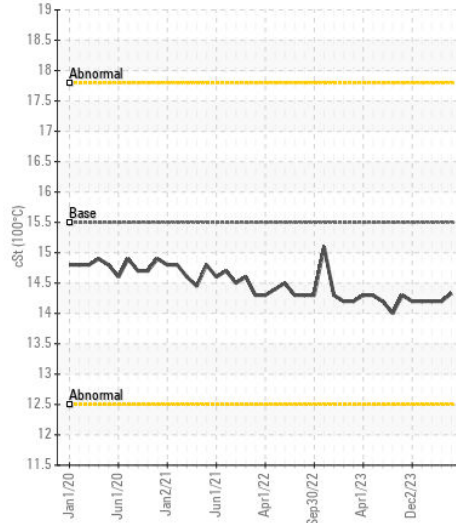
Ferrous Alloys



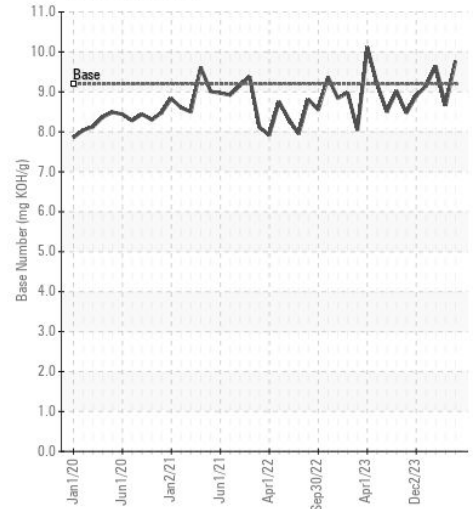
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

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

Sample No. : MW0068268

Lab Number : 06193048

Unique Number : 11049800

Test Package : MAR 2

Received : 28 May 2024

Tested : 31 May 2024

Diagnosed : 31 May 2024 - Sean Felton

INGRAM BARGE

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PADUCAH, KY

US 42003

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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)