



WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Area

PB SHAH

Machine Id

[PB SHAH] 003 566553-3

Component

Starboard Main Engine

Fluid

CHEVRON DELO 710 LE (320 GAL)

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		MW0066054	MW0066120	MW0065977
Sample Date		Client Info		01 Jul 2024	01 Jun 2024	02 May 2024
Machine Age	hrs	Client Info		2064	1358	776
Oil Age	hrs	Client Info		2064	1358	776
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	12	13	15
Chromium	ppm	ASTM D5185m	>8	2	1	1
Nickel	ppm	ASTM D5185m	>2	0	0	<1
Titanium	ppm	ASTM D5185m	>3	<1	0	<1
Silver	ppm	ASTM D5185m	>2	<1	0	<1
Aluminum	ppm	ASTM D5185m	>15	2	2	3
Lead	ppm	ASTM D5185m	>18	5	6	7
Copper	ppm	ASTM D5185m	>80	12	11	15
Tin	ppm	ASTM D5185m	>14	6	7	8
Vanadium	ppm	ASTM D5185m		<1	<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.

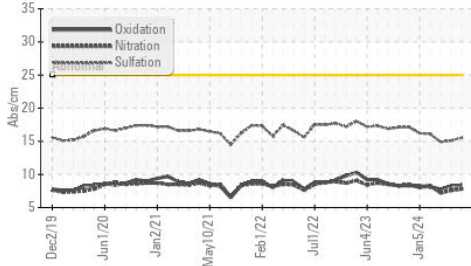
Silicon	ppm	ASTM D5185m	>20	4	5	8
Potassium	ppm	ASTM D5185m	>20	2	<1	3
Fuel		WC Method	>4.0	<1.0	<1.0	<1.0
Water		WC Method	>0.1	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>3	0.3	0.2	0.2
Nitration	Abs/cm	*ASTM D7624	>20	7.8	7.6	7.2
Sulfation	Abs/.1mm	*ASTM D7415	>30	15.5	15.1	14.9
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

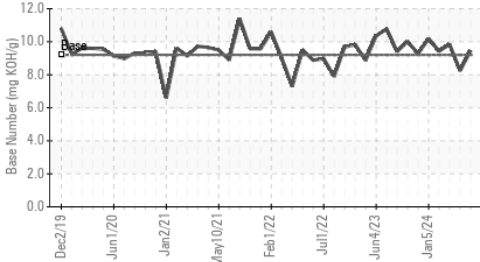
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m	>75	0	<1	2
Boron	ppm	ASTM D5185m		40	45	48
Barium	ppm	ASTM D5185m		0	0	0
Molybdenum	ppm	ASTM D5185m		46	47	44
Manganese	ppm	ASTM D5185m		2	1	1
Magnesium	ppm	ASTM D5185m		10	27	11
Calcium	ppm	ASTM D5185m		3456	3739	3387
Phosphorus	ppm	ASTM D5185m		11	15	12
Zinc	ppm	ASTM D5185m	10	5	18	6
Sulfur	ppm	ASTM D5185m		2168	2725	2825
Oxidation	Abs/.1mm	*ASTM D7414	>25	8.4	8.2	7.8
Base Number (BN)	mg KOH/g	ASTM D2896	9.2	9.46	8.24	9.84
Visc @ 100°C	cSt	ASTM D445	15.5	14.9	14.8	14.7

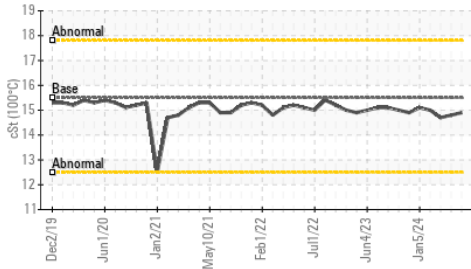
FT-IR (Direct Trend)



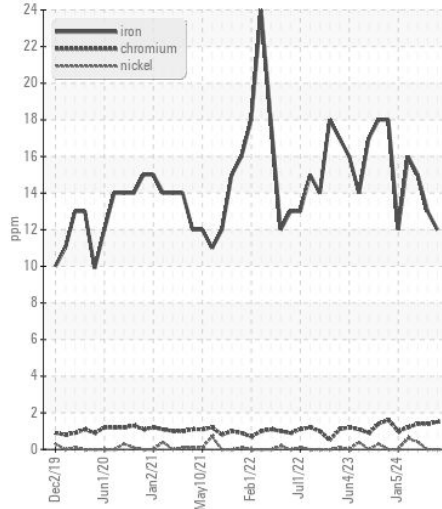
Base Number



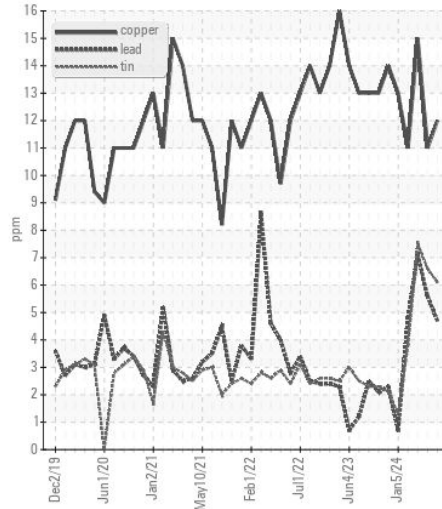
Viscosity @ 100°C



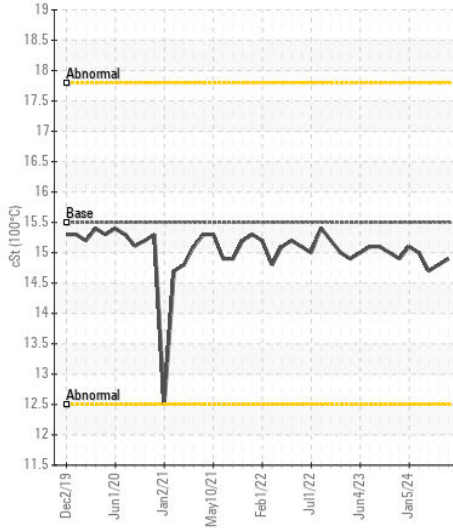
Ferrous Alloys



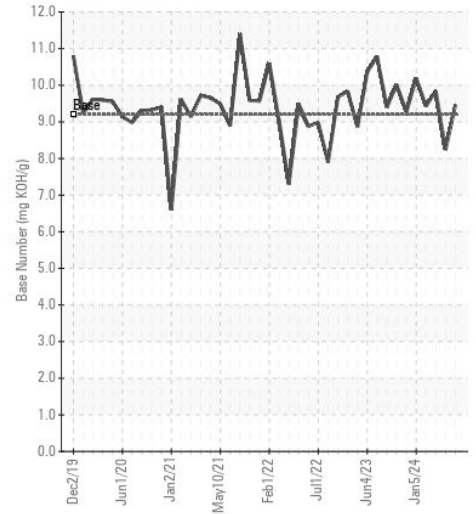
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

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

Sample No. : MW0066054

Lab Number : 06234030

Unique Number : 11122864

Test Package : MAR 2

Received : 11 Jul 2024

Tested : 12 Jul 2024

Diagnosed : 12 Jul 2024 - Wes Davis

INGRAM BARGE

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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)