



WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL



Machine Id
RICKEY HUGHES (S/N TSJ00167)
Component
Starboard Main Engine
Fluid
CHEVRON DELO 400 XLE 15W40 (265 GAL)

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		MW06227273	MW0062345	MW0062348
Sample Date		Client Info		29 Jun 2024	12 May 2024	10 Mar 2024
Machine Age	hrs	Client Info		89549	88472	87190
Oil Age	hrs	Client Info		256	789	399
Filter Age	hrs	Client Info		0	24	399
Oil Changed		Client Info		Not Changd	Not Changd	Not Changd
Filter Changed		Client Info		Not Changd	Not Changd	Not Changd
Sample Status				NORMAL	NORMAL	NORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>75	1	5	4
Chromium	ppm	ASTM D5185m	>8	0	0	<1
Nickel	ppm	ASTM D5185m	>2	0	0	0
Titanium	ppm	ASTM D5185m	>3	7	15	14
Silver	ppm	ASTM D5185m	>2	0	0	<1
Aluminum	ppm	ASTM D5185m	>15	2	1	1
Lead	ppm	ASTM D5185m	>18	0	<1	2
Copper	ppm	ASTM D5185m	>80	3	2	5
Tin	ppm	ASTM D5185m	>14	<1	0	<1
Vanadium	ppm	ASTM D5185m		<1	0	<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.

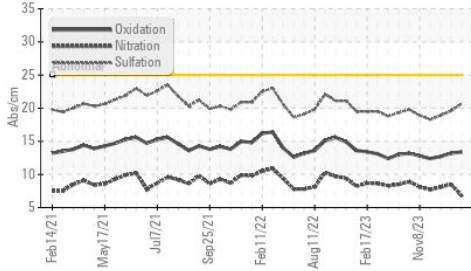
Silicon	ppm	ASTM D5185m	>20	4	5	3
Potassium	ppm	ASTM D5185m	>20	2	2	4
Fuel		WC Method	>4.0	<1.0	<1.0	<1.0
Water		WC Method	>0.1	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844		0.9	1	0.8
Nitration	Abs/cm	*ASTM D7624	>20	6.8	8.5	8.1
Sulfation	Abs/.1mm	*ASTM D7415	>30	20.7	19.6	18.9
Silt	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

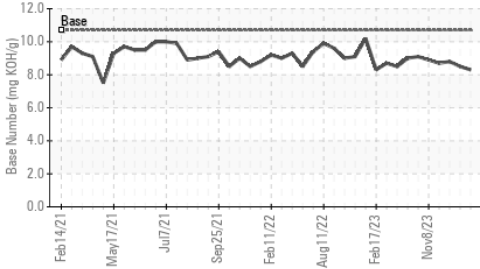
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m	>75	2	8	4
Boron	ppm	ASTM D5185m		232	114	70
Barium	ppm	ASTM D5185m		0	0	0
Molybdenum	ppm	ASTM D5185m		55	32	25
Manganese	ppm	ASTM D5185m		<1	<1	<1
Magnesium	ppm	ASTM D5185m		575	784	695
Calcium	ppm	ASTM D5185m		1441	1643	1488
Phosphorus	ppm	ASTM D5185m	760	885	774	727
Zinc	ppm	ASTM D5185m	830	1035	910	793
Sulfur	ppm	ASTM D5185m	2770	3624	3757	3559
Oxidation	Abs/.1mm	*ASTM D7414	>25	13.4	13.2	12.7
Base Number (BN)	mg KOH/g	ASTM D2896	10.7	8.3	8.5	8.8
Visc @ 100°C	cSt	ASTM D445	14.9	14.6	14.9	14.8

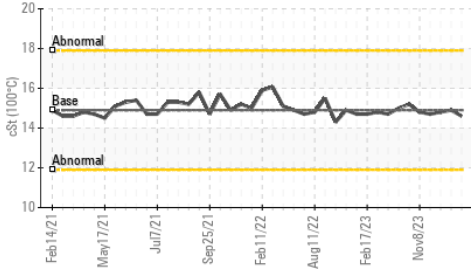
FT-IR (Direct Trend)



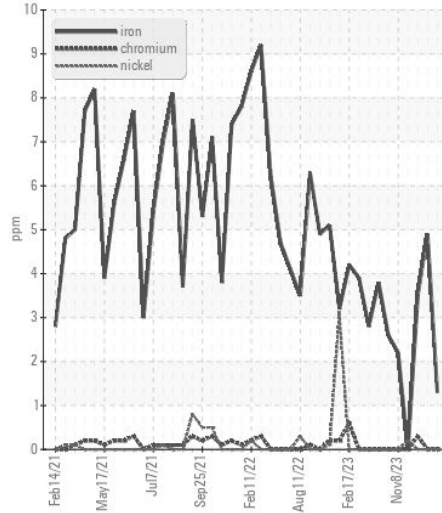
Base Number



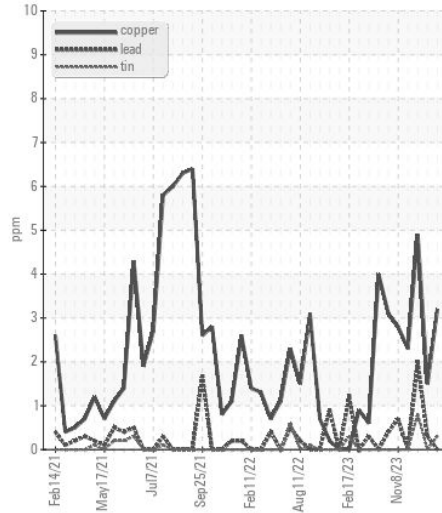
Viscosity @ 100°C



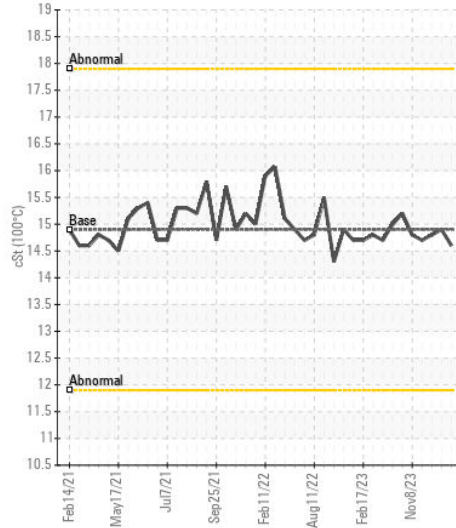
Ferrous Alloys



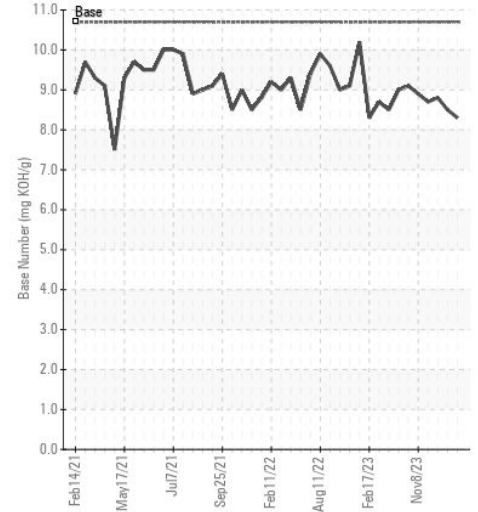
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : MW06227273
Lab Number : 06227273
Unique Number : 11110766
Test Package : MAR 2

Received : 03 Jul 2024
Tested : 05 Jul 2024
Diagnosed : 05 Jul 2024 - Wes Davis

AMERICAN COMMERCIAL LINES
 PO BOX 610, 1701 E. MARKET STREET
 JEFFERSONVILLE, IN
 US 47130
 Contact: RONALD SCHNEIDER
 ronald.schneider@bargaeacbl.com

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)

T:
 F: (812)288-1644