



WEAR	<b>NORMAL</b>
CONTAMINATION	<b>NORMAL</b>
FLUID CONDITION	<b>NORMAL</b>



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		<b>MW0069754</b>	MW06227273	MW0062345
Sample Date		Client Info		<b>29 Jun 2024</b>	29 Jun 2024	12 May 2024
Machine Age	hrs	Client Info		<b>89549</b>	89549	88472
Oil Age	hrs	Client Info		<b>256</b>	256	789
Filter Age	hrs	Client Info		<b>256</b>	0	24
Oil Changed		Client Info		<b>Not Changd</b>	Not Changd	Not Changd
Filter Changed		Client Info		<b>Not Changd</b>	Not Changd	Not Changd
Sample Status				<b>NORMAL</b>	NORMAL	NORMAL

**WEAR**

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>75	<b>2</b>	1	5
Chromium	ppm	ASTM D5185m	>8	<b>&lt;1</b>	0	0
Nickel	ppm	ASTM D5185m	>2	<b>0</b>	0	0
Titanium	ppm	ASTM D5185m	>3	<b>9</b>	7	15
Silver	ppm	ASTM D5185m	>2	<b>&lt;1</b>	0	0
Aluminum	ppm	ASTM D5185m	>15	<b>1</b>	2	1
Lead	ppm	ASTM D5185m	>18	<b>0</b>	0	<1
Copper	ppm	ASTM D5185m	>80	<b>5</b>	3	2
Tin	ppm	ASTM D5185m	>14	<b>0</b>	<1	0
Vanadium	ppm	ASTM D5185m		<b>&lt;1</b>	<1	0
White Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE

**CONTAMINATION**

There is no indication of any contamination in the oil.

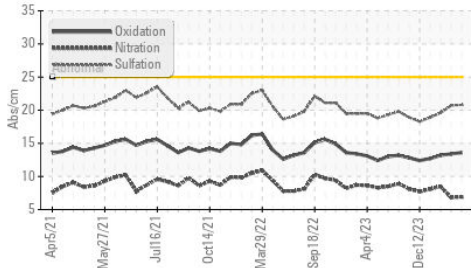
Silicon	ppm	ASTM D5185m	>20	<b>2</b>	4	5
Potassium	ppm	ASTM D5185m	>20	<b>&lt;1</b>	2	2
Fuel		WC Method	>4.0	<b>&lt;1.0</b>	<1.0	<1.0
Water		WC Method	>0.1	<b>NEG</b>	NEG	NEG
Glycol		WC Method		<b>NEG</b>	NEG	NEG
Soot %	%	*ASTM D7844		<b>0.9</b>	0.9	1
Nitration	Abs/cm	*ASTM D7624	>20	<b>6.9</b>	6.8	8.5
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>20.8</b>	20.7	19.6
Silt	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Debris	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Appearance	scalar	*Visual	NORML	<b>NORML</b>	NORML	NORML
Odor	scalar	*Visual	NORML	<b>NORML</b>	NORML	NORML
Emulsified Water	scalar	*Visual	>0.1	<b>NEG</b>	NEG	NEG

**FLUID CONDITION**

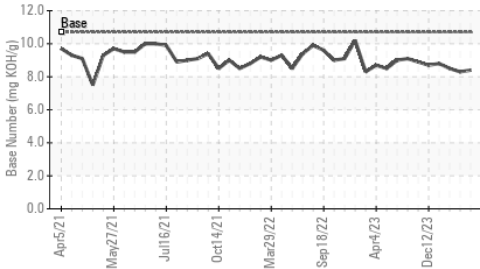
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m	>75	<b>5</b>	2	8
Boron	ppm	ASTM D5185m		<b>303</b>	232	114
Barium	ppm	ASTM D5185m		<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m		<b>60</b>	55	32
Manganese	ppm	ASTM D5185m		<b>&lt;1</b>	<1	<1
Magnesium	ppm	ASTM D5185m		<b>571</b>	575	784
Calcium	ppm	ASTM D5185m		<b>1573</b>	1441	1643
Phosphorus	ppm	ASTM D5185m	760	<b>841</b>	885	774
Zinc	ppm	ASTM D5185m	830	<b>977</b>	1035	910
Sulfur	ppm	ASTM D5185m	2770	<b>3336</b>	3624	3757
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>13.6</b>	13.4	13.2
Base Number (BN)	mg KOH/g	ASTM D2896	10.7	<b>8.4</b>	8.3	8.5
Visc @ 100°C	cSt	ASTM D445	14.9	<b>14.6</b>	14.6	14.9

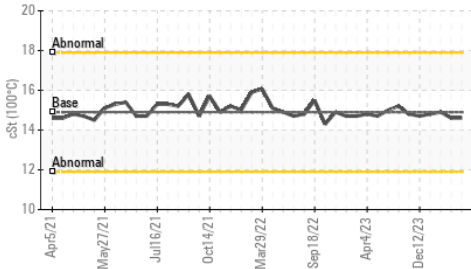
**FT-IR (Direct Trend)**



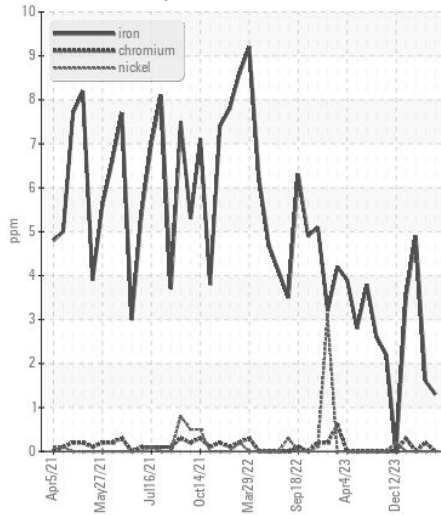
**Base Number**



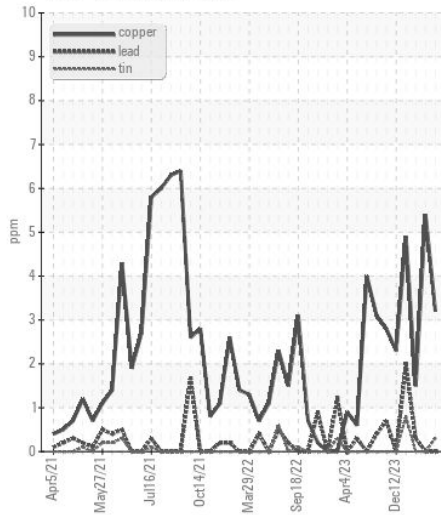
**Viscosity @ 100°C**



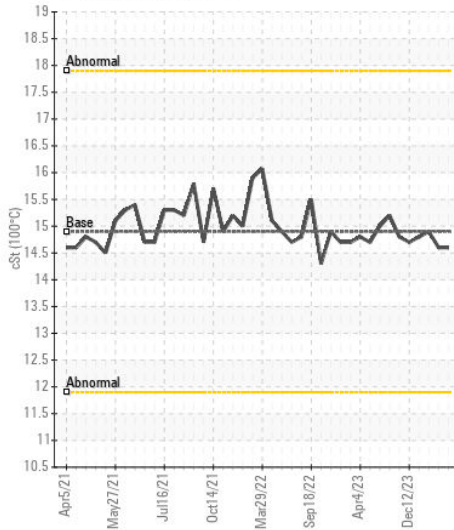
**Ferrous Alloys**



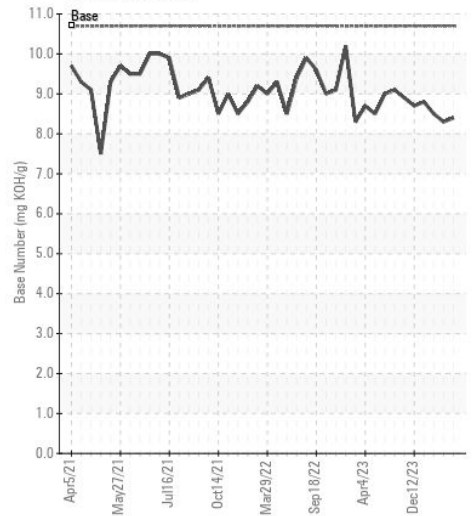
**Non-ferrous Metals**



**Viscosity @ 100°C**



**Base Number**



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : MW0069754  
**Lab Number** : 06228329  
**Unique Number** : 11111822  
**Test Package** : MAR 2

**Received** : 05 Jul 2024  
**Tested** : 08 Jul 2024  
**Diagnosed** : 08 Jul 2024 - Wes Davis

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

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