



Machine Id  
**SUL**  
Component  
**Starboard Genset**  
Fluid  
**{not provided} (--- GAL)**

**RECOMMENDATION**

No corrective action is recommended at this time. Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>MW0060669</b>	MW0042686	MWM636808
Sample Date		Client Info		<b>13 Jun 2024</b>	05 Oct 2022	16 Apr 2021
Machine Age	hrs	Client Info		<b>0</b>	0	4730
Oil Age	hrs	Client Info		<b>0</b>	0	500
Filter Age	hrs	Client Info		<b>0</b>	0	0
Oil Changed		Client Info		<b>N/A</b>	Changed	Changed
Filter Changed		Client Info		<b>N/A</b>	Changed	Changed
Sample Status				<b>ATTENTION</b>	NORMAL	ATTENTION

**WEAR**

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>50	<b>11</b>	14	8
Chromium	ppm	ASTM D5185m	>4	<b>0</b>	<1	<1
Nickel	ppm	ASTM D5185m	>2	<b>&lt;1</b>	<1	0
Titanium	ppm	ASTM D5185m		<b>&lt;1</b>	<1	9
Silver	ppm	ASTM D5185m	>5	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m	>12	<b>4</b>	2	2
Lead	ppm	ASTM D5185m	>17	<b>7</b>	3	0
Copper	ppm	ASTM D5185m	>70	<b>33</b>	2	2
Tin	ppm	ASTM D5185m	>15	<b>7</b>	<1	0
Vanadium	ppm	ASTM D5185m		<b>0</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.

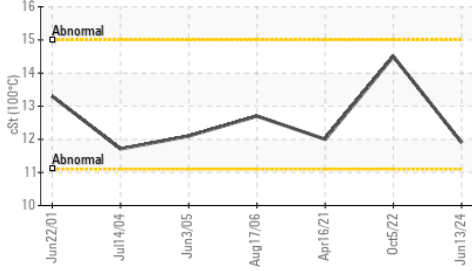
Silicon	ppm	ASTM D5185m	>25	<b>11</b>	7	4
Potassium	ppm	ASTM D5185m	>20	<b>5</b>	2	4
Fuel	%	ASTM D3524	>4.0	<b>&lt;1.0</b>	<1.0	▲ 1.7
Water		WC Method	>0.1	<b>NEG</b>	NEG	NEG
Glycol		WC Method		<b>NEG</b>	NEG	NEG
Soot %	%	*ASTM D7844		<b>0.1</b>	0.1	0.2
Nitration	Abs/cm	*ASTM D7624	>20	<b>6.2</b>	12.1	6.8
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>22.1</b>	26.1	20.3
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**

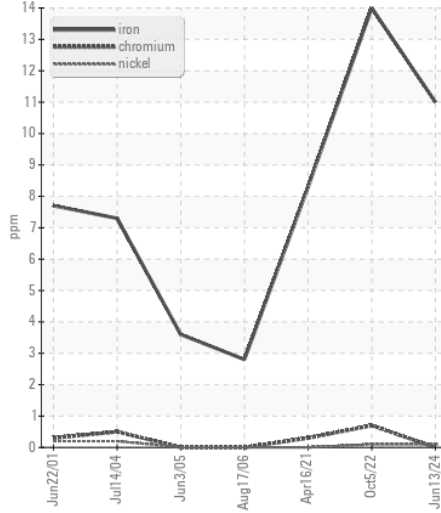
The oil viscosity is lower than normal. The BN result indicates that there is suitable alkalinity remaining in the oil. Confirm oil type.

Sodium	ppm	ASTM D5185m		<b>16</b>	2	3
Boron	ppm	ASTM D5185m		<b>314</b>	255	208
Barium	ppm	ASTM D5185m		<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m		<b>121</b>	108	56
Manganese	ppm	ASTM D5185m		<b>&lt;1</b>	<1	<1
Magnesium	ppm	ASTM D5185m		<b>737</b>	730	629
Calcium	ppm	ASTM D5185m		<b>1608</b>	1658	1557
Phosphorus	ppm	ASTM D5185m		<b>756</b>	736	779
Zinc	ppm	ASTM D5185m		<b>889</b>	907	860
Sulfur	ppm	ASTM D5185m		<b>3012</b>	3202	2550
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>15.6</b>	25.4	14.6
Base Number (BN)	mg KOH/g	ASTM D2896		<b>8.6</b>	8.1	9.1
Visc @ 100°C	cSt	ASTM D445		<b>11.9</b>	14.5	● 12.0

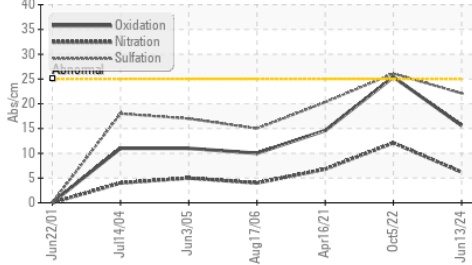
● Viscosity @ 100°C



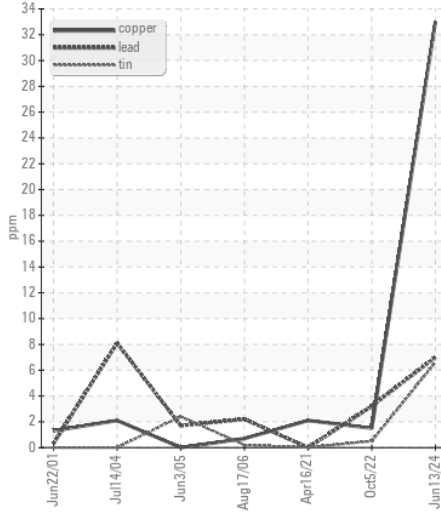
Ferrous Alloys



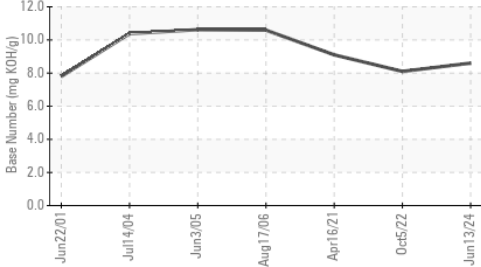
FT-IR (Direct Trend)



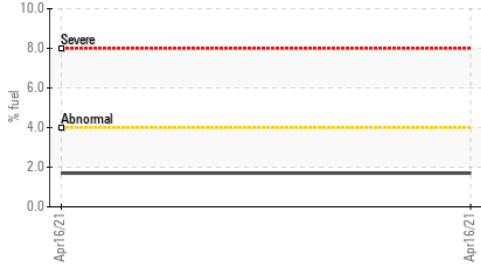
Non-ferrous Metals



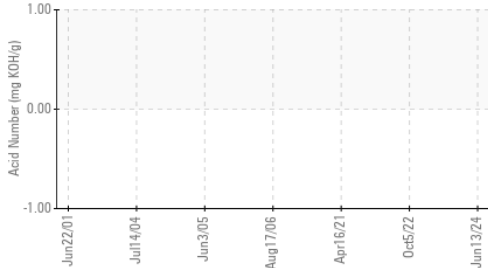
Base Number



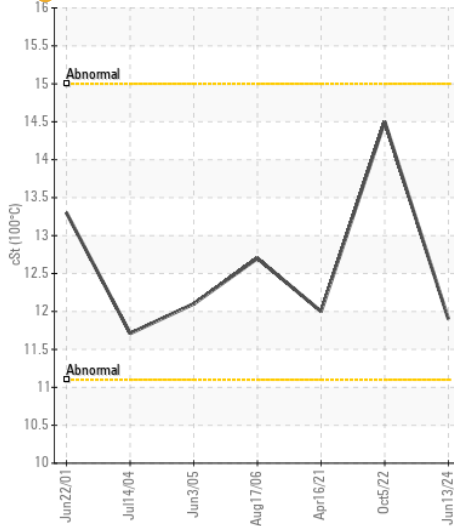
Fuel Dilution



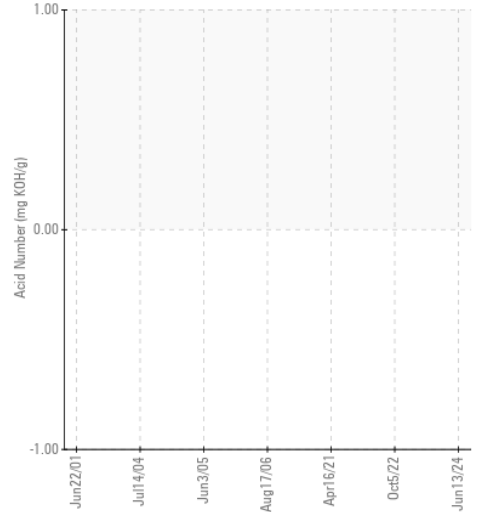
Acid Number



● Viscosity @ 100°C



Acid Number



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : MW0060669  
**Lab Number** : 06217595  
**Unique Number** : 11090459  
**Test Package** : MAR 2 ( Additional Tests: FUELDILUTION, PercentFuel, TAN Man )

**AMERICAN RIVER TRANSPORTATION CO.**  
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 CASSVILLE, WI  
 US 53806  
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 F:

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)