



# OIL ANALYSIS REPORT

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



Machine Id  
**HARBOUR GENERATOR**  
Component  
**Main Engine**  
Fluid  
**CAT DIESEL ENGINE OIL 15W40 (138 LTR)**

## RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>WC0803041</b>	WC0802981	WC0596851
Sample Date		Client Info		<b>19 Mar 2024</b>	02 Sep 2023	26 Mar 2023
Machine Age	hrs	Client Info		<b>12139</b>	11664	11478
Oil Age	hrs	Client Info		<b>0</b>	300	478
Filter Age	hrs	Client Info		<b>0</b>	300	478
Oil Changed		Client Info		<b>N/A</b>	Not Changd	Not Changd
Filter Changed		Client Info		<b>N/A</b>	Not Changd	Not Changd
Sample Status				<b>NORMAL</b>	NORMAL	NORMAL

## WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185(m)	>120	<b>9</b>	10	7
Chromium	ppm	ASTM D5185(m)	>10	<b>0</b>	<1	0
Nickel	ppm	ASTM D5185(m)	>5	<b>0</b>	<1	<1
Titanium	ppm	ASTM D5185(m)		<b>0</b>	0	<1
Silver	ppm	ASTM D5185(m)	>5	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185(m)	>20	<b>1</b>	1	1
Lead	ppm	ASTM D5185(m)	>40	<b>1</b>	2	<1
Copper	ppm	ASTM D5185(m)	>300	<b>12</b>	2	1
Tin	ppm	ASTM D5185(m)	>10	<b>&lt;1</b>	<1	<1
Vanadium	ppm	ASTM D5185(m)		<b>0</b>	0	0
White Metal	scalar	Visual*	NONE	<b>NONE</b>	NONE	NONE
Yellow Metal	scalar	Visual*	NONE	<b>NONE</b>	NONE	NONE

## CONTAMINATION

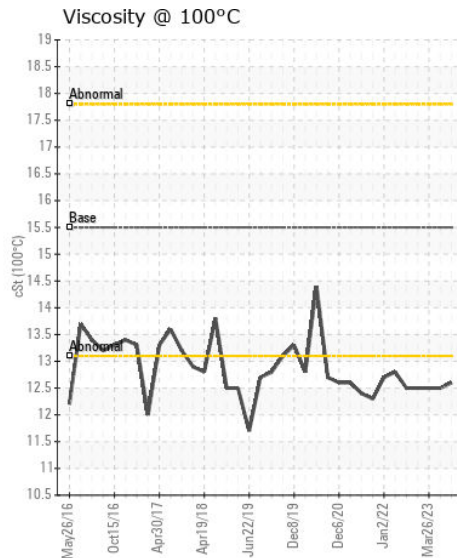
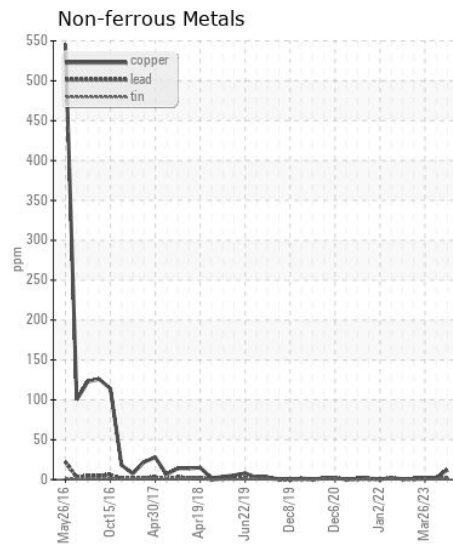
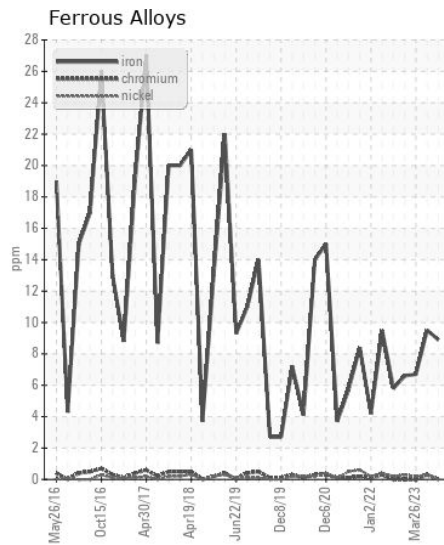
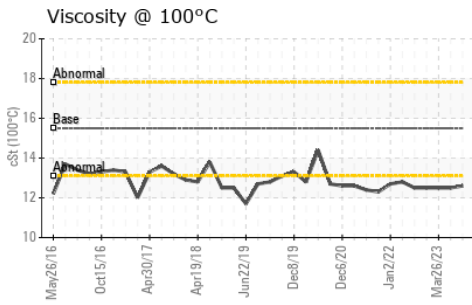
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185(m)	>25	<b>8</b>	4	6
Potassium	ppm	ASTM D5185(m)	>20	<b>&lt;1</b>	0	0
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</b>	0	0
Nitration	Abs/cm	ASTM D7624*	>20	<b>7.3</b>	8.5	8.2
Sulfation	Abs/.1mm	ASTM D7415*	>30	<b>23.2</b>	23.1	25.8
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 condition of the oil is acceptable for the time in service.

Sodium	ppm	ASTM D5185(m)		<b>4</b>	3	3
Boron	ppm	ASTM D5185(m)		<b>48</b>	33	37
Barium	ppm	ASTM D5185(m)		<b>&lt;1</b>	0	0
Molybdenum	ppm	ASTM D5185(m)		<b>39</b>	40	39
Manganese	ppm	ASTM D5185(m)		<b>0</b>	<1	<1
Magnesium	ppm	ASTM D5185(m)		<b>498</b>	501	483
Calcium	ppm	ASTM D5185(m)		<b>1761</b>	1740	1816
Phosphorus	ppm	ASTM D5185(m)		<b>758</b>	821	833
Zinc	ppm	ASTM D5185(m)	1460	<b>917</b>	929	906
Sulfur	ppm	ASTM D5185(m)		<b>2106</b>	2087	2163
Oxidation	Abs/.1mm	ASTM D7414*	>25	<b>21.3</b>	21.7	21.9
Visc @ 100°C	cSt	ASTM D7279(m)	15.5	<b>12.6</b>	12.5	12.5



**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9  
**Sample No.** : WC0803041  
**Lab Number** : 02625954  
**Unique Number** : 5759086  
**Test Package** : MAR 1  
**Received** : 02 Apr 2024  
**Tested** : 02 Apr 2024  
**Diagnosed** : 02 Apr 2024 - Wes Davis

**Siem Offshore Canada LP.**  
 M/V Avalon Sea, 140 WATER STREET SUITE 1000  
 ST. JOHN'S, NL  
 CA A1C 6H6  
 Contact: Avalon Sea  
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To discuss this sample report, contact Customer Service at 1-800-268-2131.  
 Test denoted (\*) outside scope of accreditation, (m) method modified, (e) tested at external lab.  
 Validity of results and interpretation are based on the sample and information as supplied.

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F: