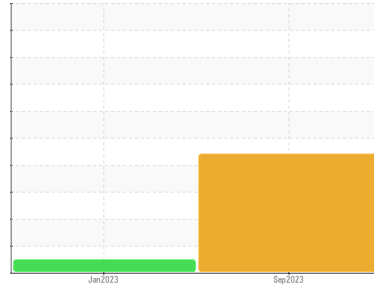




PROBLEM SUMMARY

Sample Rating Trend



GLYCOL

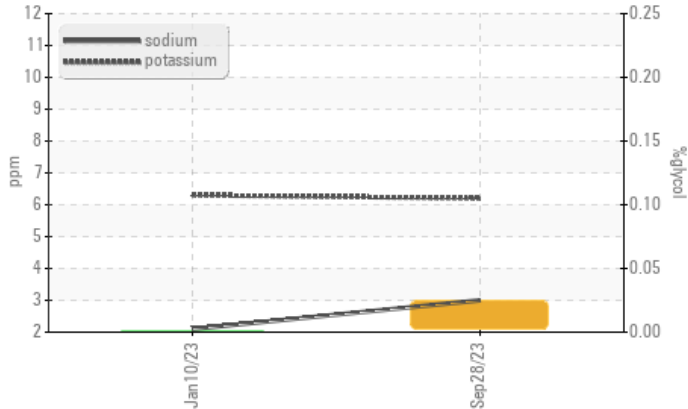


Area
ECRC-400
 Machine Id
25-35-141

Component
Starboard Diesel Engine
 Fluid
SHELL ROTELLA T5 10W30 (CJ4) (13 LTR)

COMPONENT CONDITION SUMMARY

▲ Glycol Contamination



RECOMMENDATION

We advise that you check for the source of the coolant leak. We recommend that you drain the oil from the component if this has not already been done. We advise that you flush the component thoroughly before re-filling with oil. Confirm the source of the lubricant being utilized for top-up/fill. We recommend an early resample to monitor this condition. The fluid was specified as SHELL ROTELLA T5 10W30 (CJ4), however, a fluid match indicates that this fluid is SAE 30 Diesel Engine Oil. Please confirm the oil type and grade on your next sample. Please specify the component make and model with your next sample.

PROBLEMATIC TEST RESULTS

Sample Status			ABNORMAL	NORMAL	---
Boron	ppm	ASTM D5185(m)	▲ 172	177	---
Magnesium	ppm	ASTM D5185(m)	▲ 13	12	---
Potassium	ppm	ASTM D5185(m) >20	▲ 6	6	---
Glycol	%	ASTM D7922*	▲ 0.024	0.0	---

Customer Id: ECRCOR
 Sample No.: WC0864147
 Lab Number: 02586072
 Test Package: MAR 1



To manage this report scan the QR code

To discuss the diagnosis or test data:
 Wes Davis +1 905-569-8600 x223
wesd@wearcheck.ca

To change component or sample information:
 Gloria Gonzalez +1 (289)291-4643 x4643
gloria.gonzalez@wearcheck.com

RECOMMENDED ACTIONS

Action	Status	Date	Done By	Description
Change Fluid	---	---	?	We recommend that you drain the oil from the component if this has not already been done.
Flush System	---	---	?	We advise that you flush the component thoroughly before re-filling with oil.
Resample	---	---	?	We recommend an early resample to monitor this condition.
Alert	---	---	?	The fluid was specified as SHELL ROTELLA T5 10W30 (CJ4), however, a fluid match indicates that this fluid is SAE 30 Diesel Engine Oil. Please confirm the oil type and grade on your next sample.
Information Required	---	---	?	Please specify the component make and model with your next sample.
Check Fluid Source	---	---	?	Confirm the source of the lubricant being utilized for top-up/fill.
Check Glycol Access	---	---	?	We advise that you check for the source of the coolant leak.

HISTORICAL DIAGNOSIS

10 Jan 2023 Diag: Kevin Marson

NORMAL



Confirm the source of the lubricant being utilized for top-up/fill. Resample at the next service interval to monitor. NOTE: Please provide information regarding reservoir capacity, filter type and micron rating with next sample. Please specify the component make and model with your next sample. Metal levels are typical for a new component breaking in. There is no indication of any contamination in the oil. Additive levels indicate the addition of a different brand, or type of oil. The condition of the oil is acceptable for the time in service.

view report

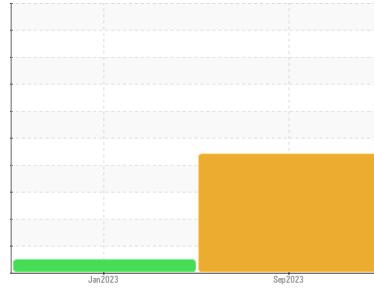




OIL ANALYSIS REPORT

Sample Rating Trend

GLYCOL



Area
ECRC-400
 Machine Id
25-35-141

Component
Starboard Diesel Engine
 Fluid
SHELL ROTELLA T5 10W30 (CJ4) (13 LTR)

DIAGNOSIS

Recommendation

We advise that you check for the source of the coolant leak. We recommend that you drain the oil from the component if this has not already been done. We advise that you flush the component thoroughly before re-filling with oil. Confirm the source of the lubricant being utilized for top-up/fill. We recommend an early resample to monitor this condition. The fluid was specified as SHELL ROTELLA T5 10W30 (CJ4), however, a fluid match indicates that this fluid is SAE 30 Diesel Engine Oil. Please confirm the oil type and grade on your next sample. Please specify the component make and model with your next sample.

Wear

Metal levels are typical for a new component breaking in.

Contamination

Test for glycol is positive. There is a light concentration of glycol present in the oil.

Fluid Condition

Additive levels indicate the addition of a different brand, or type of oil. The oil is no longer serviceable due to the presence of contaminants.

SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		WC0864147	WC0631363	---
Sample Date	Client Info		28 Sep 2023	10 Jan 2023	---
Machine Age	hrs	Client Info	112	84	---
Oil Age	hrs	Client Info	62	34	---
Oil Changed	Client Info		Not Chngd	Not Chngd	---
Sample Status			ABNORMAL	NORMAL	---

CONTAMINATION

	method	limit/base	current	history1	history2
Fuel	WC Method	>5	<1.0	<1.0	---

WEAR METALS

	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185(m)	>100	3	3
Chromium	ppm	ASTM D5185(m)	>20	0	0
Nickel	ppm	ASTM D5185(m)	>4	0	0
Titanium	ppm	ASTM D5185(m)		0	<1
Silver	ppm	ASTM D5185(m)	>3	<1	0
Aluminum	ppm	ASTM D5185(m)	>20	<1	<1
Lead	ppm	ASTM D5185(m)	>40	1	2
Copper	ppm	ASTM D5185(m)	>330	7	14
Tin	ppm	ASTM D5185(m)	>15	0	0
Antimony	ppm	ASTM D5185(m)		0	0
Vanadium	ppm	ASTM D5185(m)		0	0
Beryllium	ppm	ASTM D5185(m)		0	0
Cadmium	ppm	ASTM D5185(m)		0	0

ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185(m)		▲ 172	177
Barium	ppm	ASTM D5185(m)	0	<1	<1
Molybdenum	ppm	ASTM D5185(m)		1	2
Manganese	ppm	ASTM D5185(m)		0	<1
Magnesium	ppm	ASTM D5185(m)		▲ 13	12
Calcium	ppm	ASTM D5185(m)		2071	2199
Phosphorus	ppm	ASTM D5185(m)		966	999
Zinc	ppm	ASTM D5185(m)		1098	1082
Sulfur	ppm	ASTM D5185(m)		2956	3059
Lithium	ppm	ASTM D5185(m)		<1	<1

CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m)	>25	7	8
Sodium	ppm	ASTM D5185(m)		3	2
Potassium	ppm	ASTM D5185(m)	>20	▲ 6	6
Glycol	%	ASTM D7922*		▲ 0.024	0.0

INFRA-RED

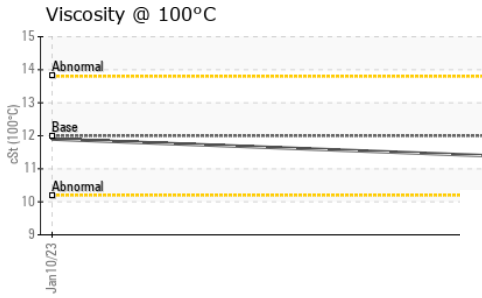
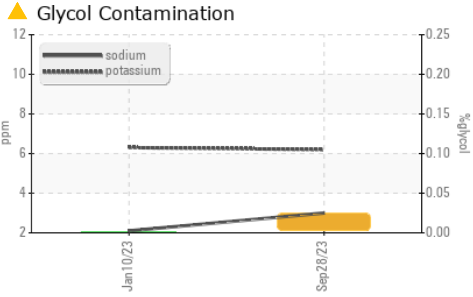
	method	limit/base	current	history1	history2
Soot %	%	ASTM D7844*	>3	0	0
Nitration	Abs/cm	ASTM D7624*	>20	6.0	5.9
Sulfation	Abs/.1mm	ASTM D7415*	>30	20.5	22.0

FLUID DEGRADATION

	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	ASTM D7414*	>25	17.0	17.7



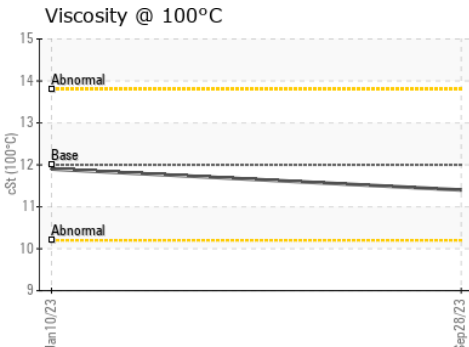
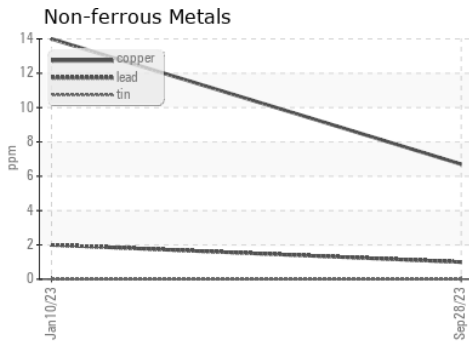
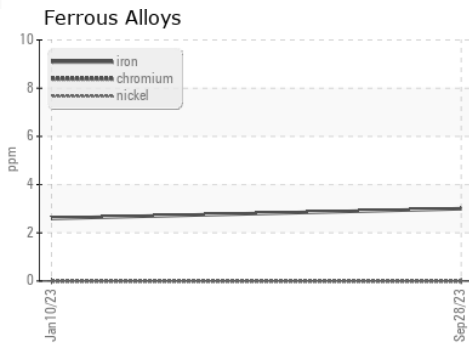
OIL ANALYSIS REPORT



VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	Visual*	NONE	NONE	---
Yellow Metal	scalar	Visual*	NONE	NONE	---
Precipitate	scalar	Visual*	NONE	NONE	---
Silt	scalar	Visual*	NONE	NONE	---
Debris	scalar	Visual*	NONE	NONE	---
Sand/Dirt	scalar	Visual*	NONE	NONE	---
Appearance	scalar	Visual*	NORML	NORML	---
Odor	scalar	Visual*	NORML	NORML	---
Emulsified Water	scalar	Visual*	>0.2	NEG	---
Free Water	scalar	Visual*		NEG	---

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D7279(m)	12.0	11.4	11.9

GRAPHS



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : WC0864147 **Received** : 02 Oct 2023
Lab Number : **02586072** **Diagnosed** : 02 Oct 2023
Unique Number : 5655138 **Diagnostician** : Wes Davis
Test Package : MAR 1 (Additional Tests: Glycol)

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 Corunna, ON
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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.