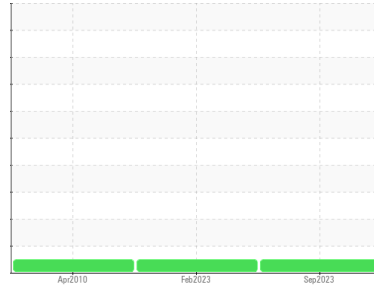




OIL ANALYSIS REPORT

Sample Rating Trend

NORMAL



Area
CLARKE & SONS FISHING LTD.
 Machine Id
FISHING VESSEL MV JOYFUL SOUND

Component
Main Engine
 Fluid
SHELL ROTELLA T 15W40 (130 LTR)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

Contamination

There is no indication of any contamination in the oil.

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.

SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		OF0000292	OF0000946	OF0000055
Sample Date	Client Info		22 Sep 2023	21 Feb 2023	01 Apr 2010
Machine Age	hrs	Client Info	12201	10501	21110
Oil Age	hrs	Client Info	1700	50	428
Oil Changed	Client Info		Changed	Not Changd	N/A
Sample Status			NORMAL	NORMAL	NORMAL

CONTAMINATION

	method	limit/base	current	history1	history2
Fuel	WC Method	>4.0	<1.0	<1.0	<1.0
Glycol	WC Method		NEG	NEG	NEG

WEAR METALS

	method	limit/base	current	history1	history2	
Iron	ppm	ASTM D5185(m)	>75	3	1	12
Chromium	ppm	ASTM D5185(m)	>8	0	0	<1
Nickel	ppm	ASTM D5185(m)	>2	0	0	0
Titanium	ppm	ASTM D5185(m)	>3	0	0	<1
Silver	ppm	ASTM D5185(m)	>2	<1	<1	<1
Aluminum	ppm	ASTM D5185(m)	>15	<1	2	1
Lead	ppm	ASTM D5185(m)	>18	<1	0	<1
Copper	ppm	ASTM D5185(m)	>80	1	<1	<1
Tin	ppm	ASTM D5185(m)	>14	0	0	0
Antimony	ppm	ASTM D5185(m)		0	0	---
Vanadium	ppm	ASTM D5185(m)		0	0	<1
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)	35	130	64	28
Barium	ppm	ASTM D5185(m)	0	<1	<1	<1
Molybdenum	ppm	ASTM D5185(m)	0	8	74	<1
Manganese	ppm	ASTM D5185(m)	0	0	0	<1
Magnesium	ppm	ASTM D5185(m)	10	10	12	11
Calcium	ppm	ASTM D5185(m)	2340	2148	2100	2264
Phosphorus	ppm	ASTM D5185(m)	1110	986	980	1026
Zinc	ppm	ASTM D5185(m)	1210	1135	1117	1184
Sulfur	ppm	ASTM D5185(m)	3890	2939	3048	2732
Lithium	ppm	ASTM D5185(m)		<1	<1	---

CONTAMINANTS

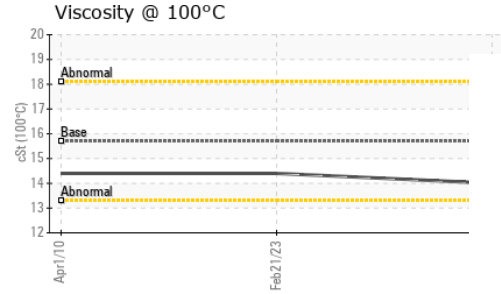
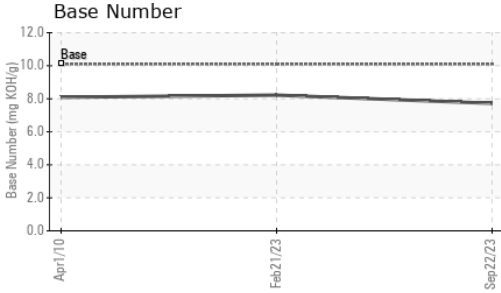
	method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185(m)	>20	2	6	3
Sodium	ppm	ASTM D5185(m)	>75	3	3	7
Potassium	ppm	ASTM D5185(m)	>20	2	0	2

INFRA-RED

	method	limit/base	current	history1	history2	
Soot %	%	ASTM D7844*		0.2	0	0.2
Nitration	Abs/cm	ASTM D7624*	>20	6.6	7.1	10.8
Sulfation	Abs/.1mm	ASTM D7415*	>30	19.9	16.5	24.8



OIL ANALYSIS REPORT

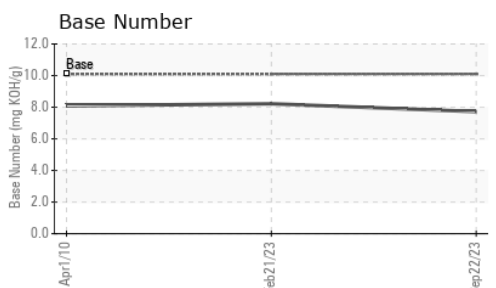
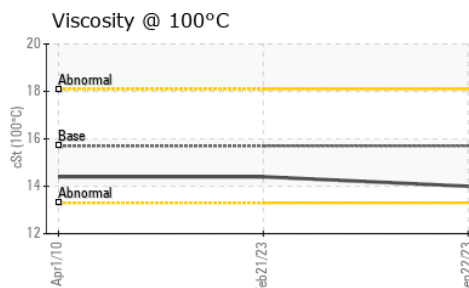
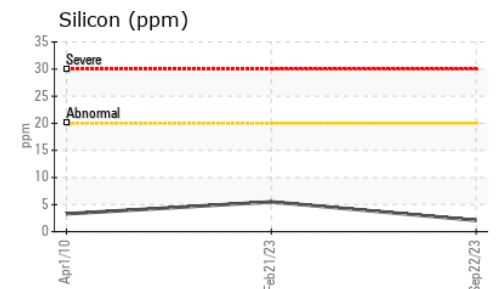
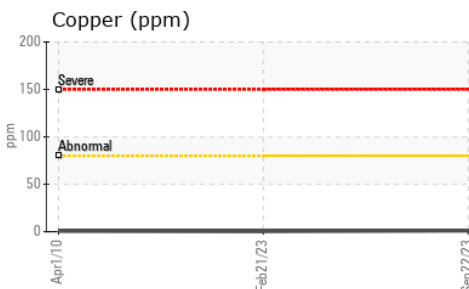
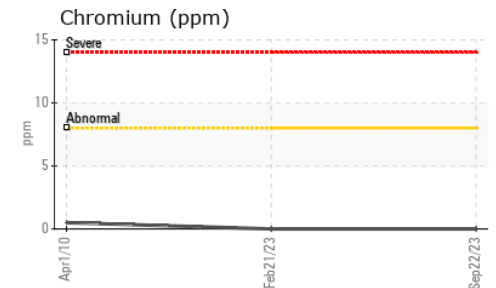
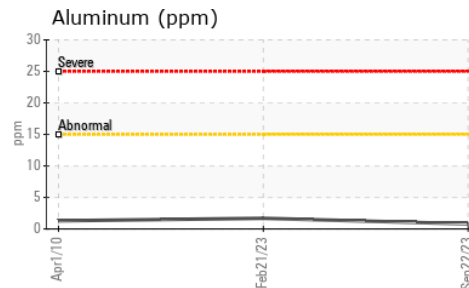
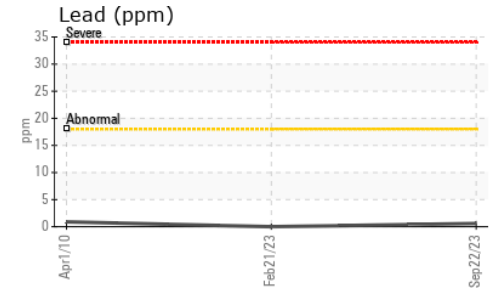
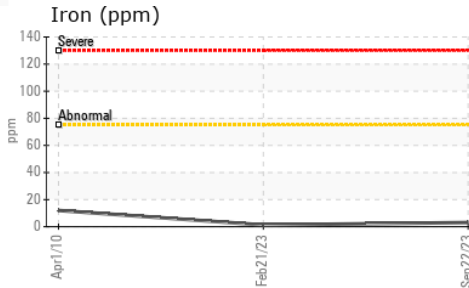


FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs./1mm	ASTM D7414*	>25	14.8	11.1	22.4
Base Number (BN)	mg KOH/g	ASTM D2896*	10.1	7.72	8.22	8.09

VISUAL		method	limit/base	current	history1	history2
Emulsified Water	scalar	Visual*	>0.1	NEG	NEG	NEG
Free Water	scalar	Visual*		NEG	NEG	NEG

FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D7279(m)	15.7	14.0	14.4	14.4

GRAPHS



ISO 17025:2017
Accredited
Laboratory

Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
 Sample No. : OF0000292
 Lab Number : **02587426**
 Unique Number : 5656492
 Test Package : MOB 2

Received : 06 Oct 2023
 Diagnosed : 13 Oct 2023
 Diagnostician : Wes Davis

Oil Filtration Solutions Ltd.
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 BBUTLER@OILFILTRATIONSOLUTIONS.COM
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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.