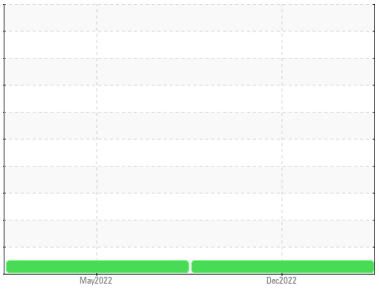
OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL

Machine Id
CAL010
Component
Diesel Engine
Fluid
MOBIL MOBILGARD 412 (6000 LTR)

DIAGNOSIS

Recommendation
Resample at the next service interval to monitor. Please contact your representative for information regarding the proper sampling kits for your service. NOTE: We recommend using MOB 3 test kits, this testkit includes Analytical Ferrography which provides a detailed morphological analysis of wear particles present in the fluid. this testkit includes BN to determine the suitability of the oil for continued use.

Wear
Component wear rates appear to be normal (unconfirmed).

Contamination
There is no indication of any contamination in the oil.

Fluid Condition
The condition of the oil is acceptable for the time in service (unconfirmed).

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**PC0011799**	PC0052803	---
Sample Date		Client Info		**15 Dec 2022**	16 May 2022	---
Machine Age	hrs	Client Info		**16509**	12903	---
Oil Age	hrs	Client Info		**16509**	12903	---
Oil Changed		Client Info		**N/A**	Not Changd	---
Sample Status				**NORMAL**	NORMAL	---

CONTAMINATION		method	limit/base	current	history1	history2
Fuel		WC Method	>4.0	**<1.0**	<1.0	---
Water		WC Method	>0.1	**NEG**	NEG	---
Glycol		WC Method		**NEG**	NEG	---

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185(m)	>50	**6**	5	---
Chromium	ppm	ASTM D5185(m)	>10	**0**	0	---
Nickel	ppm	ASTM D5185(m)	>5	**<1**	<1	---
Titanium	ppm	ASTM D5185(m)	>2	**0**	0	---
Silver	ppm	ASTM D5185(m)	>2	**0**	0	---
Aluminum	ppm	ASTM D5185(m)	>20	**2**	2	---
Lead	ppm	ASTM D5185(m)	>20	**0**	<1	---
Copper	ppm	ASTM D5185(m)	>15	**5**	4	---
Tin	ppm	ASTM D5185(m)	>10	**<1**	0	---
Antimony	ppm	ASTM D5185(m)		**<1**	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)	0	**2**	1	---
Barium	ppm	ASTM D5185(m)	0	**0**	0	---
Molybdenum	ppm	ASTM D5185(m)	0	**<1**	<1	---
Manganese	ppm	ASTM D5185(m)	0	**<1**	<1	---
Magnesium	ppm	ASTM D5185(m)	18	**27**	28	---
Calcium	ppm	ASTM D5185(m)	6350	**6561**	6291	---
Phosphorus	ppm	ASTM D5185(m)	200	**236**	207	---
Zinc	ppm	ASTM D5185(m)	380	**379**	361	---
Sulfur	ppm	ASTM D5185(m)	6950	**5094**	4858	---
Lithium	ppm	ASTM D5185(m)		**<1**	<1	---

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m)	>20	**6**	7	---
Sodium	ppm	ASTM D5185(m)		**3**	4	---
Potassium	ppm	ASTM D5185(m)	>20	**<1**	<1	---

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	ASTM D7844*	>1.5	**0**	0.1	---
Nitration	Abs/cm	ASTM D7624*	>20	**5.4**	8.5	---
Sulfation	Abs/.1mm	ASTM D7415*	>30	**14.7**	16.7	---

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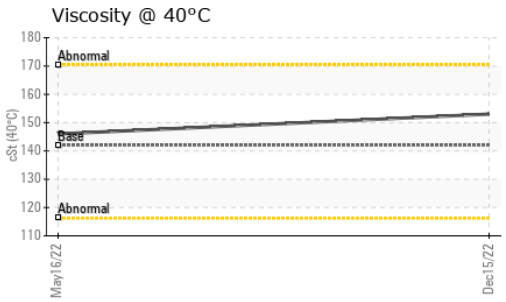
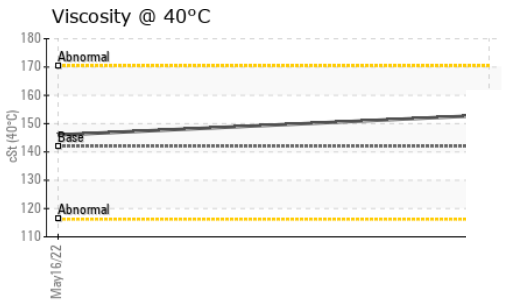


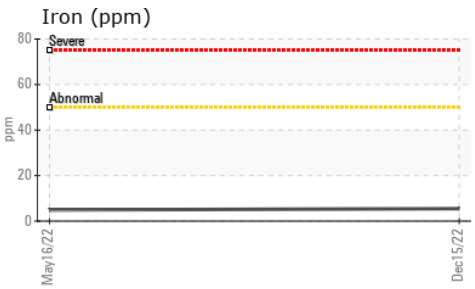


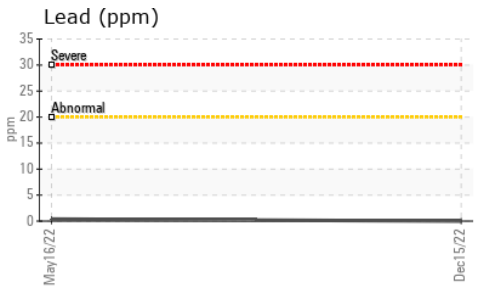
FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	ASTM D7414*	>25	**5.0**	6.8	---

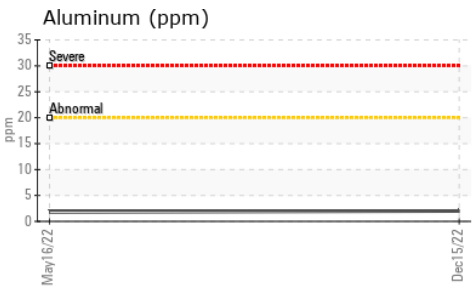
VISUAL		method	limit/base	current	history1	history2
Emulsified Water	scalar	Visual*	>0.1	**NEG**	NEG	---
Free Water	scalar	Visual*		**NEG**	NEG	---

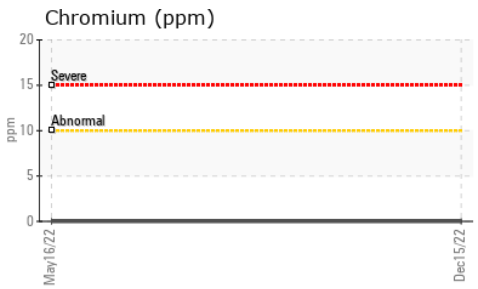
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D7279(m)	142	**153**	146	---
Visc @ 100°C	cSt	ASTM D7279(m)	14.5	**14.9**	14.5	---
Viscosity Index (VI)	Scale	ASTM D2270*	100	**96**	97	---

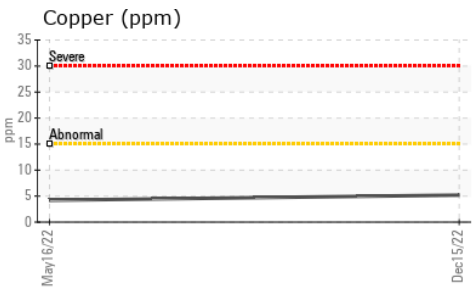
GRAPHS

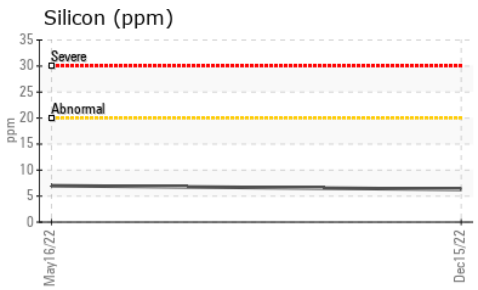


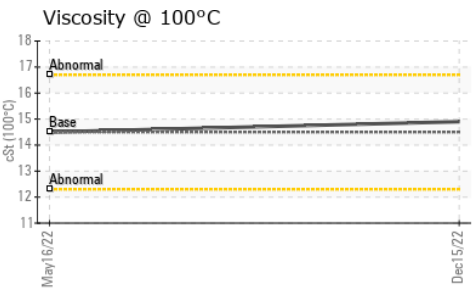


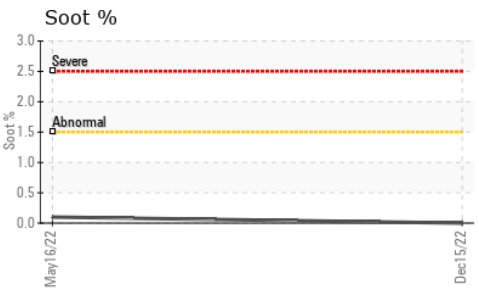












ISO 17025:2017 Accredited Laboratory

Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 **Ocean Choice International - MV Calvert**
Sample No. : PC0011799 **Recieved** : 10 Jan 2023 1315 Topsail Rd, P.O. Box 8190
Lab Number : 02532223 **Diagnosed** : 10 Jan 2023 St. John`s, NL
Unique Number : 5513222 **Diagnostician** : Wes Davis CA A1B 3N4
Test Package : MOB 1 (Additional Tests: KV40, VI) Contact: Calvert Engine Control Room

To discuss this sample report, contact Customer Service at 1-800-268-2131. calvertengine@oceanchoice.com
Test denoted (*) outside scope of accreditation, (m) method modified, (e) tested at external lab. T:
Validity of results and interpretation are based on the sample and information as supplied. F: