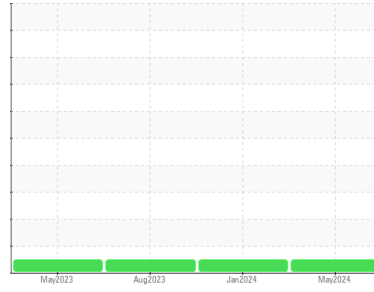


OIL ANALYSIS REPORT

Area
PROPULSION EQUIPMENT
 Machine Id
MAN MAIN ENGINE (CAL010) (S/N 1063737)
 Component
Main Engine
 Fluid
MOBIL MOBILGARD 412 (6000 LTR)

Sample Rating Trend



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			PC0080234	PC0076336	PC0010699
Sample Date	Client Info			17 May 2024	08 Jan 2024	09 Aug 2023
Machine Age	hrs	Client Info		24544	21847	20530
Oil Age	hrs	Client Info		24544	21847	20530
Oil Changed	Client Info			N/A	N/A	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
Water	WC Method	>0.2		NEG	NEG	NEG
Glycol	WC Method			NEG	NEG	NEG

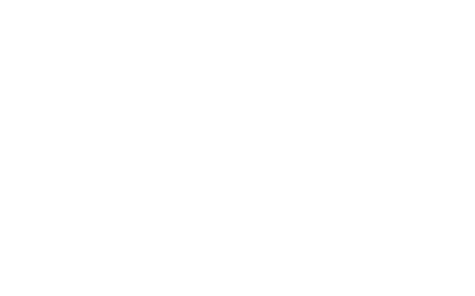
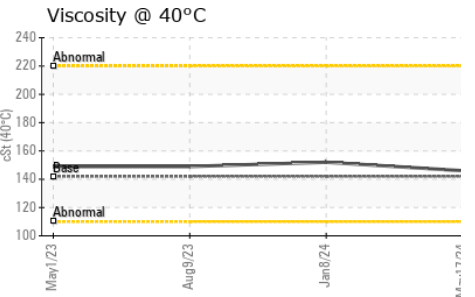
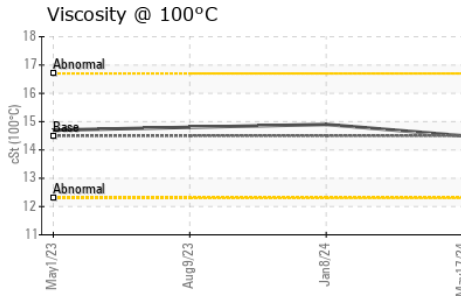
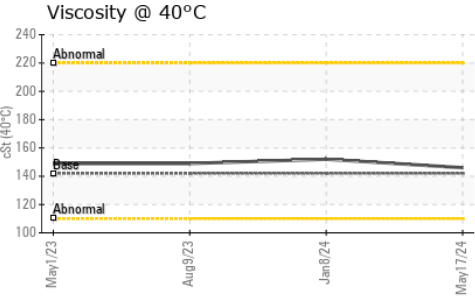
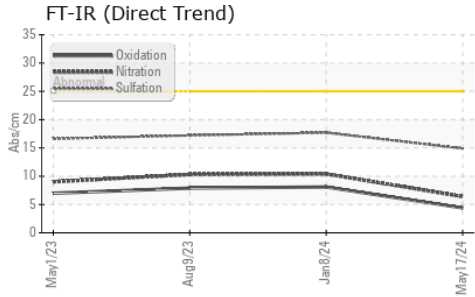
WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185(m)	>50	2	5	5
Chromium	ppm	ASTM D5185(m)	>10	0	0	0
Nickel	ppm	ASTM D5185(m)	>2	0	0	<1
Titanium	ppm	ASTM D5185(m)	>3	0	0	0
Silver	ppm	ASTM D5185(m)	>2	0	0	<1
Aluminum	ppm	ASTM D5185(m)	>20	1	2	2
Lead	ppm	ASTM D5185(m)	>20	0	0	<1
Copper	ppm	ASTM D5185(m)	>15	1	4	5
Tin	ppm	ASTM D5185(m)	>10	0	0	0
Antimony	ppm	ASTM D5185(m)		0	0	0
Vanadium	ppm	ASTM D5185(m)		0	0	0
Beryllium	ppm	ASTM D5185(m)		0	0	0
Cadmium	ppm	ASTM D5185(m)		0	0	0

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185(m)	0	<1	<1	2
Barium	ppm	ASTM D5185(m)	0	<1	0	<1
Molybdenum	ppm	ASTM D5185(m)	0	0	<1	<1
Manganese	ppm	ASTM D5185(m)	0	<1	0	<1
Magnesium	ppm	ASTM D5185(m)	18	21	25	25
Calcium	ppm	ASTM D5185(m)	6350	6141	6212	6368
Phosphorus	ppm	ASTM D5185(m)	200	204	219	214
Zinc	ppm	ASTM D5185(m)	380	363	372	376
Sulfur	ppm	ASTM D5185(m)	6950	4684	5003	4749
Lithium	ppm	ASTM D5185(m)		<1	<1	<1

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m)	>20	7	6	7
Sodium	ppm	ASTM D5185(m)	>75	3	3	3
Potassium	ppm	ASTM D5185(m)	>20	<1	<1	0

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	ASTM D7844*	>1.5	0.1	0.4	0.4
Nitration	Abs/cm	ASTM D7624*	>20	6.4	10.4	10.3
Sulfation	Abs./1mm	ASTM D7415*	>30	14.9	17.7	17.2

OIL ANALYSIS REPORT

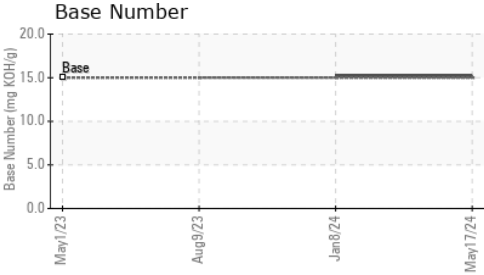
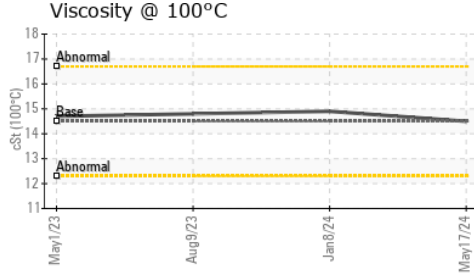
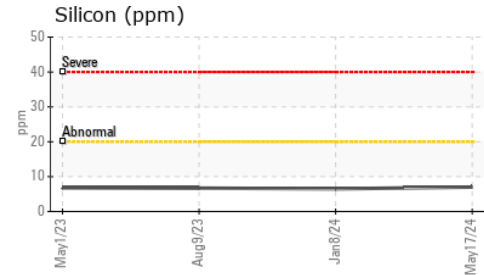
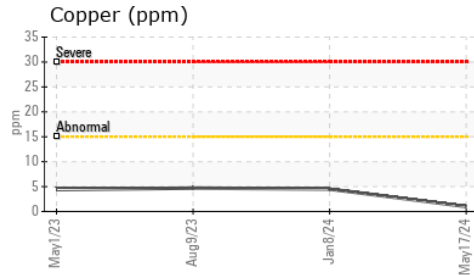
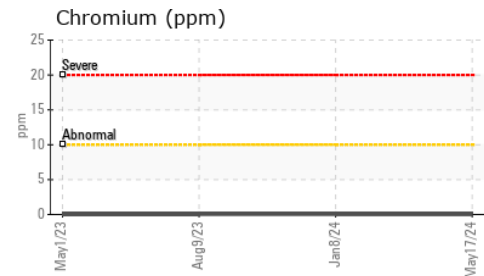
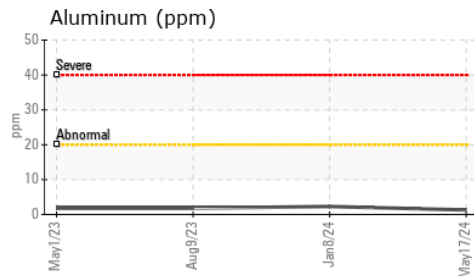
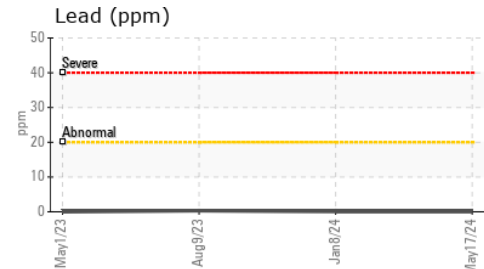
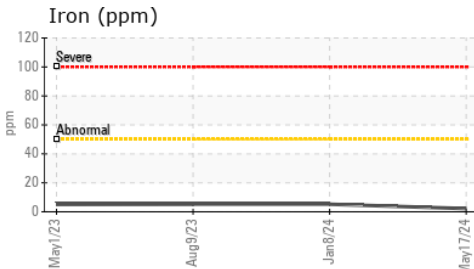


FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs./1mm	ASTM D7414*	>25	4.4	8.1	7.9
Base Number (BN)	mg KOH/g	ASTM D2896*	15	15.13	15.21	---

VISUAL		method	limit/base	current	history1	history2
Emulsified Water	scalar	Visual*	>0.2	NEG	NEG	NEG
Free Water	scalar	Visual*		NEG	NEG	NEG

FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D7279(m)	142	146	152	149
Visc @ 100°C	cSt	ASTM D7279(m)	14.5	14.5	14.9	14.8
Viscosity Index (VI)	Scale	ASTM D2270*	100	97	97	98

GRAPHS



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : PC0080234
Lab Number : **02637826**
Unique Number : 5786988
Test Package : MOB 2 (Additional Tests: KV40, VI)
Received : 28 May 2024
Tested : 29 May 2024
Diagnosed : 29 May 2024 - Wes Davis

Ocean Choice International - MV Calvert
 1315 Topsail Rd, P.O. Box 8190
 St. John's, NL
 CA A1B 3N4

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.

Contact: Calvert Engine Control Room
 calvertengine@oceanchoice.com
 T:
 F: