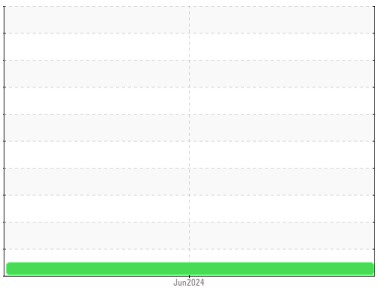
OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL

Machine Id
GREGORIAN III
Component
Starboard Diesel Engine
Fluid
DIESEL ENGINE OIL SAE 15W40 (--- GAL)

DIAGNOSIS

Recommendation
Resample at the next service interval to monitor. The fluid was not specified, however, a fluid match indicates that this fluid is (GENERIC) DIESEL ENGINE OIL SAE 15W40. Please confirm.

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 AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**PP0001446**	---	---
Sample Date		Client Info		**14 Jun 2024**	---	---
Machine Age	hrs	Client Info		**1581**	---	---
Oil Age	hrs	Client Info		**0**	---	---
Oil Changed		Client Info		**N/A**	---	---
Sample Status				**NORMAL**	---	---

CONTAMINATION		method	limit/base	current	history1	history2
Fuel		WC Method	>5	**<1.0**	---	---
Water		WC Method	>0.2	**NEG**	---	---
Glycol		WC Method		**NEG**	---	---

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185(m)	>100	**10**	---	---
Chromium	ppm	ASTM D5185(m)	>20	**<1**	---	---
Nickel	ppm	ASTM D5185(m)	>2	**<1**	---	---
Titanium	ppm	ASTM D5185(m)	>2	**0**	---	---
Silver	ppm	ASTM D5185(m)	>2	**<1**	---	---
Aluminum	ppm	ASTM D5185(m)	>25	**2**	---	---
Lead	ppm	ASTM D5185(m)	>40	**0**	---	---
Copper	ppm	ASTM D5185(m)	>330	**<1**	---	---
Tin	ppm	ASTM D5185(m)	>15	**0**	---	---
Antimony	ppm	ASTM D5185(m)		**<1**	---	---
Vanadium	ppm	ASTM D5185(m)		**0**	---	---
Beryllium	ppm	ASTM D5185(m)		**0**	---	---
Cadmium	ppm	ASTM D5185(m)		**0**	---	---

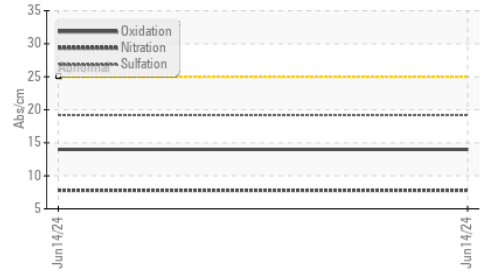
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185(m)	250	**43**	---	---
Barium	ppm	ASTM D5185(m)	10	**0**	---	---
Molybdenum	ppm	ASTM D5185(m)	100	**66**	---	---
Manganese	ppm	ASTM D5185(m)		**<1**	---	---
Magnesium	ppm	ASTM D5185(m)	450	**183**	---	---
Calcium	ppm	ASTM D5185(m)	3000	**1928**	---	---
Phosphorus	ppm	ASTM D5185(m)	1150	**956**	---	---
Zinc	ppm	ASTM D5185(m)	1350	**1119**	---	---
Sulfur	ppm	ASTM D5185(m)	4250	**2845**	---	---
Lithium	ppm	ASTM D5185(m)		**<1**	---	---

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m)	>25	**3**	---	---
Sodium	ppm	ASTM D5185(m)	>158	**4**	---	---
Potassium	ppm	ASTM D5185(m)	>20	**8**	---	---

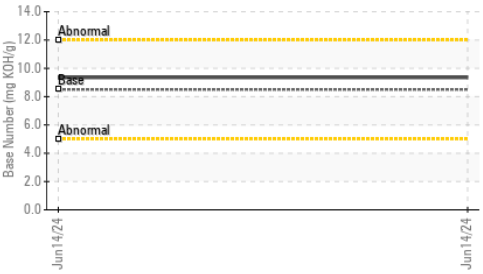
INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	ASTM D7844*	>3	**0.5**	---	---
Nitration	Abs/cm	ASTM D7624*	>20	**7.8**	---	---
Sulfation	Abs/.1mm	ASTM D7415*	>30	**19.2**	---	---

OIL ANALYSIS REPORT

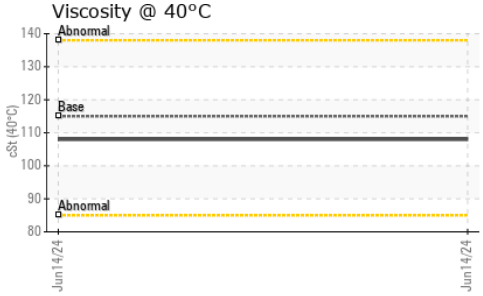
FT-IR (Direct Trend)



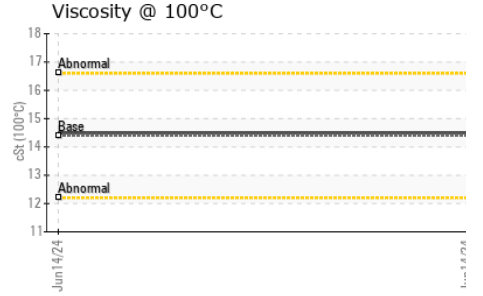
Base Number



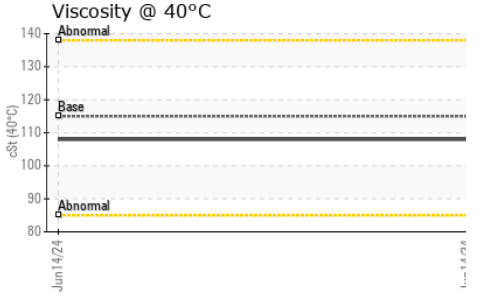
Viscosity @ 40°C



Viscosity @ 100°C



Viscosity @ 40°C



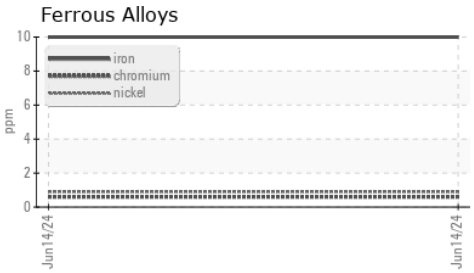
FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	ASTM D7414*	>25	**14.0**	---	---
Acid Number (AN)	mg KOH/g	ASTM D974*		**2.31**	---	---
Base Number (BN)	mg KOH/g	ASTM D2896*	8.5	**9.35**	---	---

VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	Visual*	NONE	**NONE**	---	---
Yellow Metal	scalar	Visual*	NONE	**VLITE**	---	---
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**	---	---

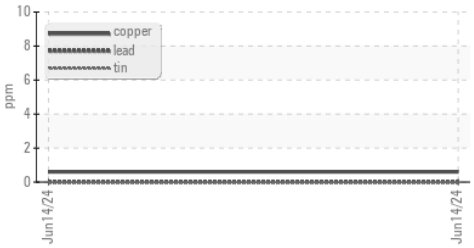
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D7279(m)	115	**108**	---	---
Visc @ 100°C	cSt	ASTM D7279(m)	14.4	**14.5**	---	---
Viscosity Index (VI)	Scale	ASTM D2270*	126	**137**	---	---

GRAPHS

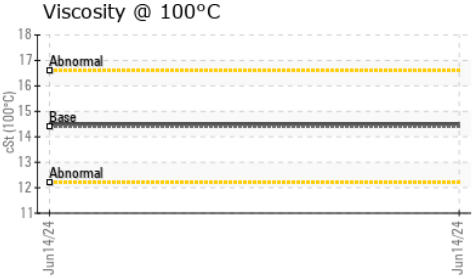
Ferrous Alloys



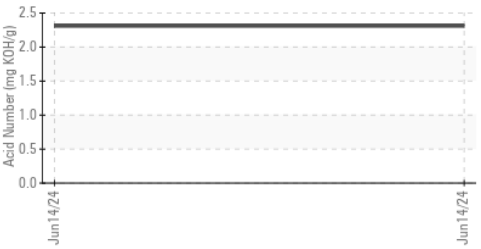
Non-ferrous Metals



Viscosity @ 100°C



Acid Number



ISO 17025:2017 Accredited Laboratory

Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : PP0001446 **Received** : 17 Jun 2024
Lab Number : 02642245 **Tested** : 18 Jun 2024
Unique Number : 5799784 **Diagnosed** : 18 Jun 2024 - Wes Davis
Test Package : MAR 2 (Additional Tests: KV40, TAN Auto, TAN Man, VI, Visual)

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.

ESTELLE CLUNIES
11 SILVER COURT
WATERDOWN, ON
CA L8B 0H9
Contact: Estelle Clunies
estelle.clunies@gmail.com
T: (905)531-1994
F: