



WEAR	<b>SEVERE</b>
CONTAMINATION	<b>NORMAL</b>
FLUID CONDITION	<b>NORMAL</b>

Machine Id  
**ZF MARINE 212780**

Component  
**Starboard Gearbox**

Fluid  
**CHEVRON DELO 400 SAE 30 (--- GAL)**

### RECOMMENDATION

We recommend that you drain the oil from the component if this has not already been done. We advise that you inspect for the source(s) of wear. We recommend an early resample to monitor this condition.

### WEAR

Clutch wear is indicated. Gear wear is indicated.

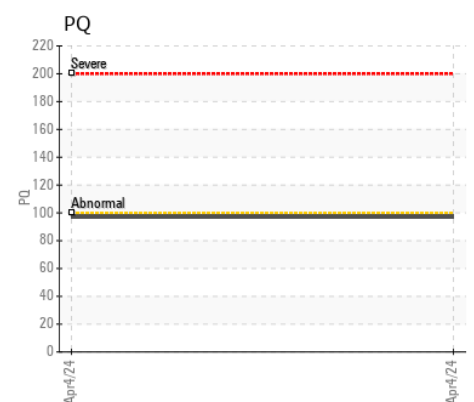
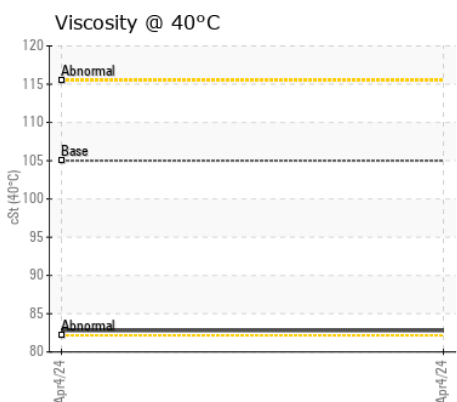
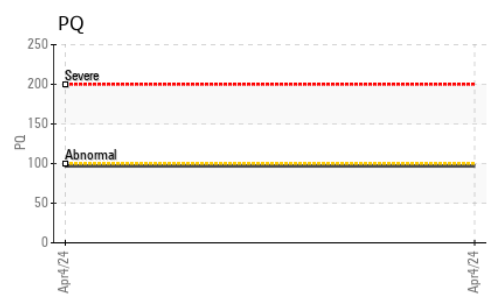
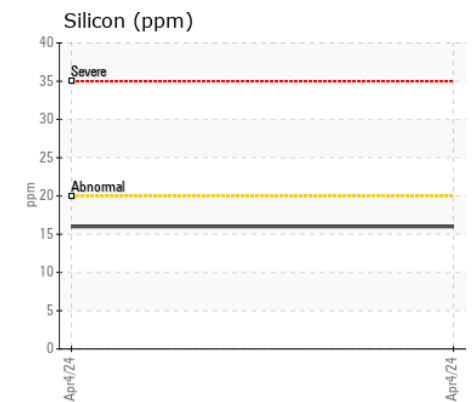
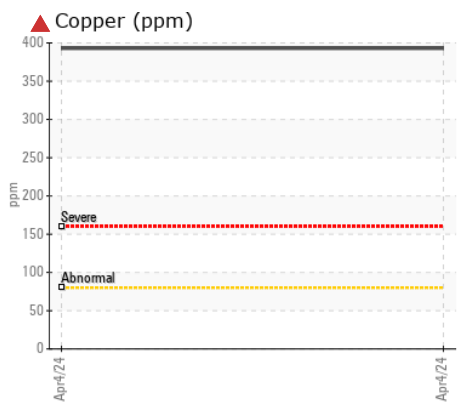
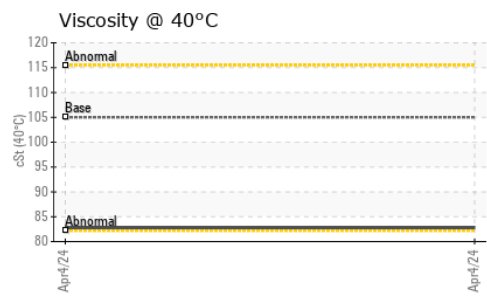
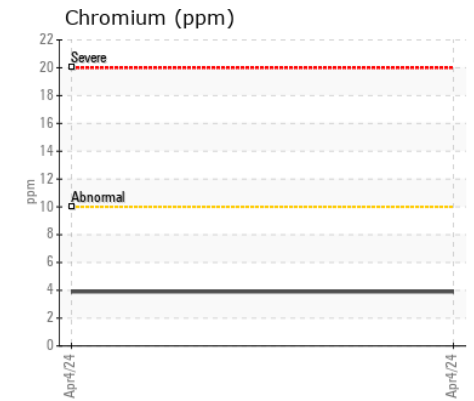
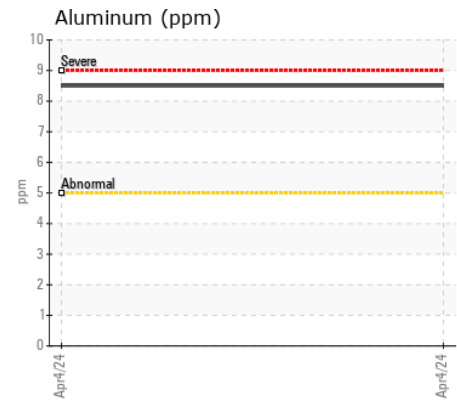
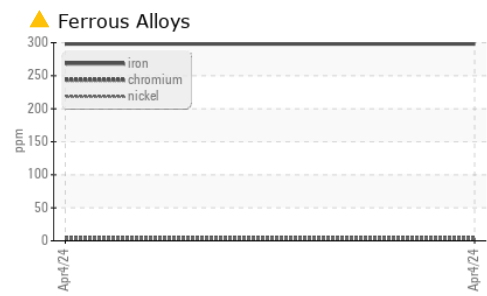
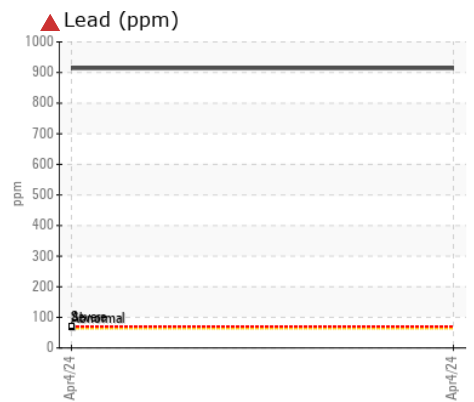
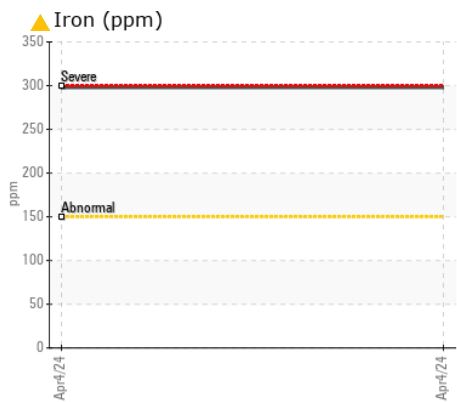
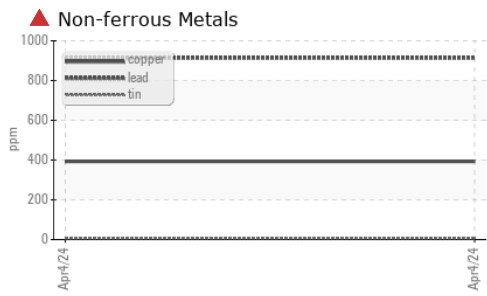
### CONTAMINATION

There is no indication of any contamination in the oil.

### FLUID CONDITION

The oil is no longer serviceable as a result of the abnormal and/or severe wear.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		VPA047532	---	---
Sample Date		Client Info		04 Apr 2024	---	---
Machine Age	hrs	Client Info		0	---	---
Oil Age	hrs	Client Info		0	---	---
Filter Age	hrs	Client Info		0	---	---
Oil Changed		Client Info		N/A	---	---
Filter Changed		Client Info		N/A	---	---
Sample Status				<b>SEVERE</b>	---	---
PQ		ASTM D8184		97	---	---
Iron	ppm	ASTM D5185m	>150	▲ 298	---	---
Chromium	ppm	ASTM D5185m	>10	4	---	---
Nickel	ppm	ASTM D5185m	>10	4	---	---
Titanium	ppm	ASTM D5185m		1	---	---
Silver	ppm	ASTM D5185m		<1	---	---
Aluminum	ppm	ASTM D5185m	>5	8	---	---
Lead	ppm	ASTM D5185m	>65	▲ 914	---	---
Copper	ppm	ASTM D5185m	>80	▲ 393	---	---
Tin	ppm	ASTM D5185m	>8	6	---	---
Vanadium	ppm	ASTM D5185m		<1	---	---
White Metal	scalar	*Visual	NONE	NONE	---	---
Yellow Metal	scalar	*Visual	NONE	NONE	---	---
Silicon	ppm	ASTM D5185m	>20	16	---	---
Potassium	ppm	ASTM D5185m	>20	6	---	---
Water		WC Method	>0.2	NEG	---	---
Silt	scalar	*Visual	NONE	NONE	---	---
Debris	scalar	*Visual	NONE	LIGHT	---	---
Sand/Dirt	scalar	*Visual	NONE	NONE	---	---
Appearance	scalar	*Visual	NORML	NORML	---	---
Odor	scalar	*Visual	NORML	NORML	---	---
Emulsified Water	scalar	*Visual	>0.2	NEG	---	---
Sodium	ppm	ASTM D5185m		8	---	---
Boron	ppm	ASTM D5185m		457	---	---
Barium	ppm	ASTM D5185m		2	---	---
Molybdenum	ppm	ASTM D5185m		88	---	---
Manganese	ppm	ASTM D5185m		4	---	---
Magnesium	ppm	ASTM D5185m		120	---	---
Calcium	ppm	ASTM D5185m		3944	---	---
Phosphorus	ppm	ASTM D5185m	1160	1511	---	---
Zinc	ppm	ASTM D5185m	1270	1489	---	---
Sulfur	ppm	ASTM D5185m		6552	---	---
Visc @ 40°C	cSt	ASTM D445	105	82.8	---	---



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : VPA047532 **Received** : 17 Apr 2024  
**Lab Number** : 06152326 **Tested** : 18 Apr 2024  
**Unique Number** : 10982404 **Diagnosed** : 22 Apr 2024 - Jonathan Hester  
**Test Package** : MOB 1 ( Additional Tests: PQ )

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 T:  
 F:

Certificate L2367  
 To discuss this sample report, contact Customer Service at 1-800-237-1369.  
 \* - Denotes test methods that are outside of the ISO 17025 scope of accreditation.  
 Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)