



Machine Id  
**50043911 STARBOARD GEARBOX**

Component  
**Starboard Gearbox**

Fluid  
**PETRO CANADA DURON HP 15W40 (--- LTR)**



**DIAGNOSIS**

**Recommendation**

We recommend that you drain the oil from the component if this has not already been done. Confirm the source of the lubricant being utilized for top-up/fill. We recommend an early resample to monitor this condition.

**Wear**

Copper ppm levels are severe.

**Contamination**

There is no indication of any contamination in the oil.

**Fluid Condition**

Viscosity of sample indicates oil is within SAE 30 range, advise investigate. This plus the additive levels indicates that this is not the same brand, or type of oil as reported. The oil is no longer serviceable as a result of the abnormal and/or severe wear.

**SAMPLE INFORMATION**

	method	limit/base	current	history1	history2
Sample Number	Client Info		<b>WA0018409</b>	---	---
Sample Date	Client Info		<b>07 Jan 2023</b>	---	---
Machine Age	hrs	Client Info	<b>623</b>	---	---
Oil Age	hrs	Client Info	<b>268</b>	---	---
Oil Changed	Client Info		<b>Not Chngd</b>	---	---
Sample Status			<b>SEVERE</b>	---	---

**WEAR METALS**

	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185(m)	>150	<b>11</b>	---
Chromium	ppm	ASTM D5185(m)	>10	<b>0</b>	---
Nickel	ppm	ASTM D5185(m)	>10	<b>&lt;1</b>	---
Titanium	ppm	ASTM D5185(m)		<b>4</b>	---
Silver	ppm	ASTM D5185(m)		<b>0</b>	---
Aluminum	ppm	ASTM D5185(m)	>5	<b>3</b>	---
Lead	ppm	ASTM D5185(m)	>65	<b>16</b>	---
Copper	ppm	ASTM D5185(m)	>80	<b>208</b>	---
Tin	ppm	ASTM D5185(m)	>8	<b>7</b>	---
Antimony	ppm	ASTM D5185(m)	>5	<b>&lt;1</b>	---
Vanadium	ppm	ASTM D5185(m)		<b>0</b>	---
Beryllium	ppm	ASTM D5185(m)		<b>0</b>	---
Cadmium	ppm	ASTM D5185(m)		<b>0</b>	---

**ADDITIVES**

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185(m)	0	<b>171</b>	---
Barium	ppm	ASTM D5185(m)	0	<b>0</b>	---
Molybdenum	ppm	ASTM D5185(m)	60	<b>7</b>	---
Manganese	ppm	ASTM D5185(m)	0	<b>&lt;1</b>	---
Magnesium	ppm	ASTM D5185(m)	1010	<b>182</b>	---
Calcium	ppm	ASTM D5185(m)	1070	<b>2150</b>	---
Phosphorus	ppm	ASTM D5185(m)	1150	<b>1028</b>	---
Zinc	ppm	ASTM D5185(m)	1270	<b>1082</b>	---
Sulfur	ppm	ASTM D5185(m)	2060	<b>3331</b>	---
Lithium	ppm	ASTM D5185(m)		<b>&lt;1</b>	---

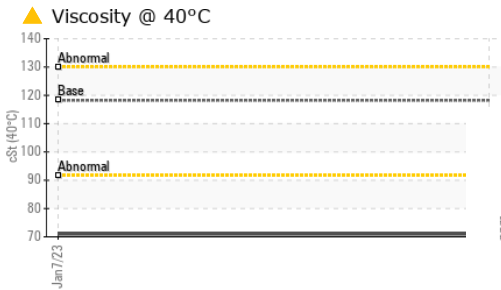
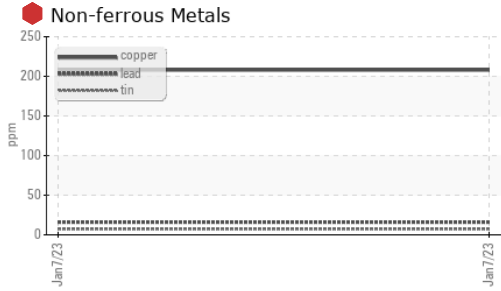
**CONTAMINANTS**

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m)	>20	<b>2</b>	---
Sodium	ppm	ASTM D5185(m)		<b>3</b>	---
Potassium	ppm	ASTM D5185(m)	>20	<b>6</b>	---

**VISUAL**

	method	limit/base	current	history1	history2
White Metal	scalar	Visual*	NONE	<b>NONE</b>	---
Yellow Metal	scalar	Visual*	NONE	<b>NONE</b>	---
Precipitate	scalar	Visual*	NONE	<b>NONE</b>	---
Silt	scalar	Visual*	NONE	<b>NONE</b>	---
Debris	scalar	Visual*	NONE	<b>NONE</b>	---
Sand/Dirt	scalar	Visual*	NONE	<b>NONE</b>	---
Appearance	scalar	Visual*	NORML	<b>NORML</b>	---
Odor	scalar	Visual*	NORML	<b>NORML</b>	---
Emulsified Water	scalar	Visual*	>0.2	<b>NEG</b>	---
Free Water	scalar	Visual*		<b>NEG</b>	---

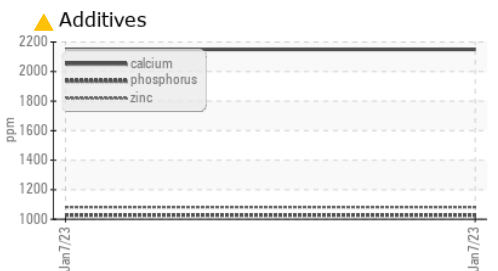
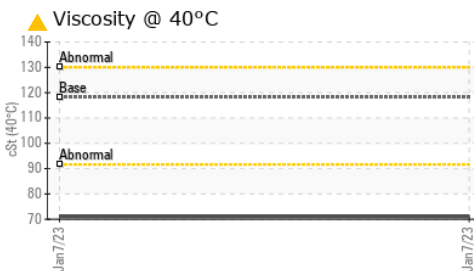
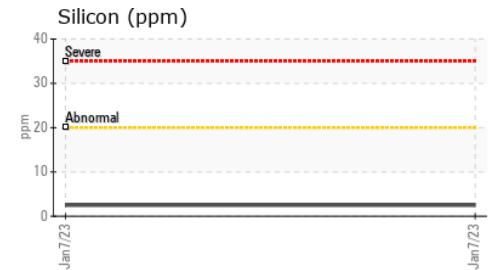
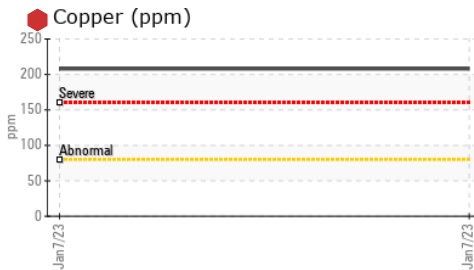
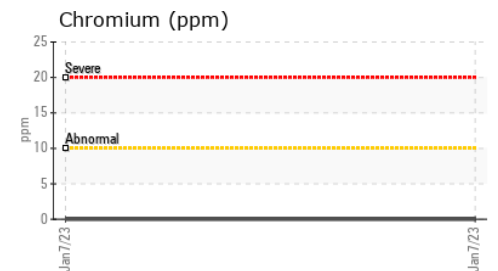
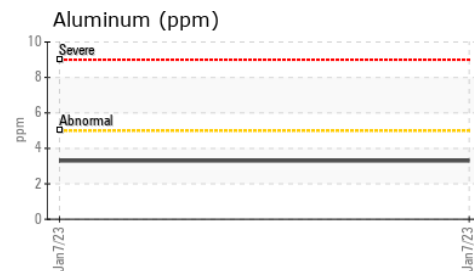
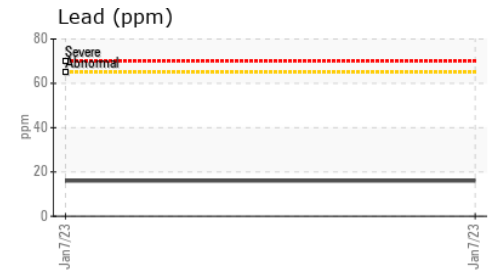
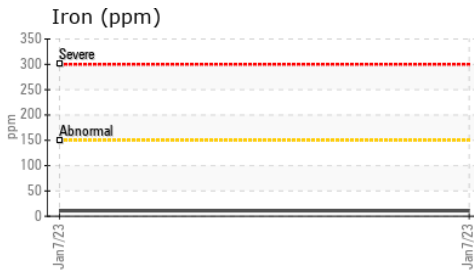
# OIL ANALYSIS REPORT



FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D7279(m)	118.2	▲ 71.0	---	---

SAMPLE IMAGES		method	limit/base	current	history1	history2
Color					no image	no image
Bottom					no image	no image

## GRAPHS



**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9  
**Sample No.** : WA0018409 **Received** : 16 Jan 2023  
**Lab Number** : 02533557 **Diagnosed** : 17 Jan 2023  
**Unique Number** : 5514556 **Diagnostician** : Bill Quesnel  
**Test Package** : MOB 1

**CANADIAN COAST GUARD**  
 CCGS HARE BAY, 10 SAMBRO WHARF ROAD  
 SAMBRO, NS  
 CA B3V 1M7  
 Contact: Engineer  
 andrew.prince@dfo-mpo.gc.ca  
 T: (902)868-2444  
 F:

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.