



Machine Id  
**P442**  
Component  
**Front Diesel Engine**  
Fluid  
**CASTROL HYPURON 15W40 (--- GAL)**



**DIAGNOSIS**

- ▲ Recommendation**  
Check for low coolant level. The oil change at the time of sampling has been noted. We recommend an early resample to monitor this condition.
- ▲ Wear**  
Iron ppm levels are abnormal. Cylinder, crank, or cam shaft wear is indicated.
- ▲ Contamination**  
Water treatment chemicals present, indicating slow coolant leak. Test for glycol is negative.
- ▲ Fluid Condition**  
The oil is no longer serviceable as a result of the abnormal and/or severe wear. The condition of the oil is acceptable for the time in service (see recommendation).

**SAMPLE INFORMATION**    method    limit/base    current    history1    history2

Sample Number	Client Info		<b>PC0075228</b>	---	---
Sample Date	Client Info		<b>05 Oct 2023</b>	---	---
Machine Age	kms	Client Info	<b>0</b>	---	---
Oil Age	kms	Client Info	<b>0</b>	---	---
Oil Changed	Client Info		<b>Changed</b>	---	---
Sample Status			<b>ABNORMAL</b>	---	---

**CONTAMINATION**    method    limit/base    current    history1    history2

Fuel	WC Method	>3.0	<b>&lt;1.0</b>	---	---
Water	WC Method	>0.2	<b>NEG</b>	---	---

**WEAR METALS**    method    limit/base    current    history1    history2

PQ		ASTM D8184*		<b>0</b>	---	---
Iron	ppm	ASTM D5185(m)	>75	<b>▲ 91</b>	---	---
Chromium	ppm	ASTM D5185(m)	>5	<b>3</b>	---	---
Nickel	ppm	ASTM D5185(m)	>4	<b>&lt;1</b>	---	---
Titanium	ppm	ASTM D5185(m)	>2	<b>0</b>	---	---
Silver	ppm	ASTM D5185(m)	>2	<b>&lt;1</b>	---	---
Aluminum	ppm	ASTM D5185(m)	>15	<b>6</b>	---	---
Lead	ppm	ASTM D5185(m)	>25	<b>&lt;1</b>	---	---
Copper	ppm	ASTM D5185(m)	>100	<b>6</b>	---	---
Tin	ppm	ASTM D5185(m)	>4	<b>&lt;1</b>	---	---
Antimony	ppm	ASTM D5185(m)		<b>0</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)		<b>13</b>	---	---
Barium	ppm	ASTM D5185(m)		<b>&lt;1</b>	---	---
Molybdenum	ppm	ASTM D5185(m)		<b>93</b>	---	---
Manganese	ppm	ASTM D5185(m)		<b>&lt;1</b>	---	---
Magnesium	ppm	ASTM D5185(m)		<b>945</b>	---	---
Calcium	ppm	ASTM D5185(m)		<b>1067</b>	---	---
Phosphorus	ppm	ASTM D5185(m)		<b>885</b>	---	---
Zinc	ppm	ASTM D5185(m)		<b>1161</b>	---	---
Sulfur	ppm	ASTM D5185(m)		<b>2465</b>	---	---
Lithium	ppm	ASTM D5185(m)		<b>&lt;1</b>	---	---

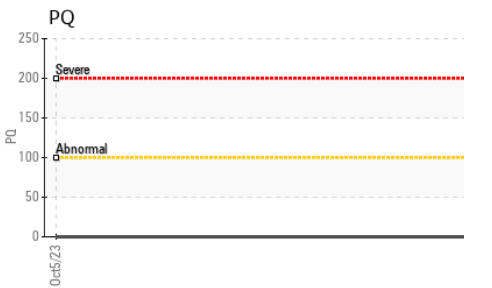
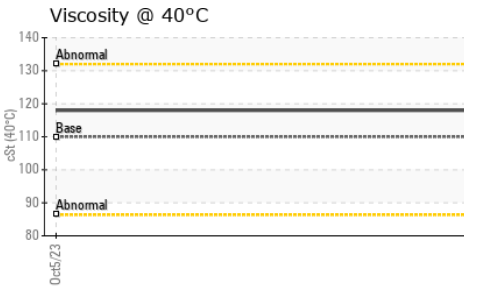
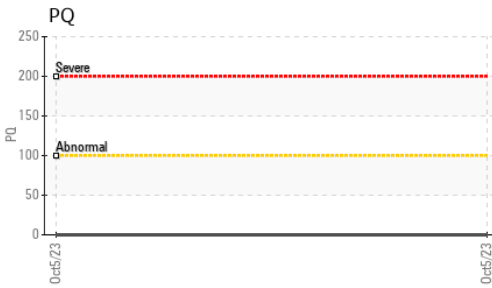
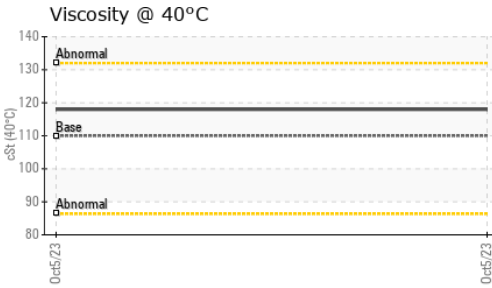
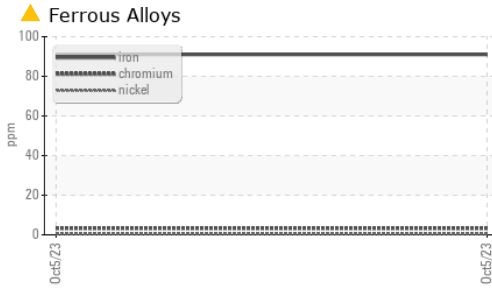
**CONTAMINANTS**    method    limit/base    current    history1    history2

Silicon	ppm	ASTM D5185(m)	>25	<b>29</b>	---	---
Sodium	ppm	ASTM D5185(m)		<b>▲ 768</b>	---	---
Potassium	ppm	ASTM D5185(m)	>20	<b>▲ 519</b>	---	---
Glycol	%	ASTM D7922*		<b>0.0</b>	---	---

**INFRA-RED**    method    limit/base    current    history1    history2

Soot %	%	ASTM D7844*	>6	<b>1.5</b>	---	---
Nitration	Abs/cm	ASTM D7624*	>20	<b>17.5</b>	---	---
Sulfation	Abs.1mm	ASTM D7415*	>30	<b>34.7</b>	---	---

# OIL ANALYSIS REPORT

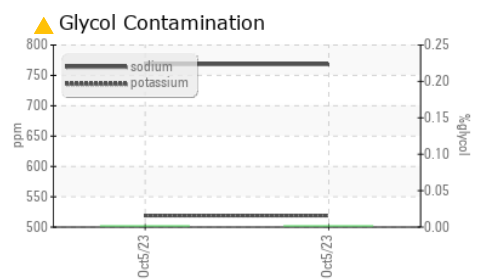
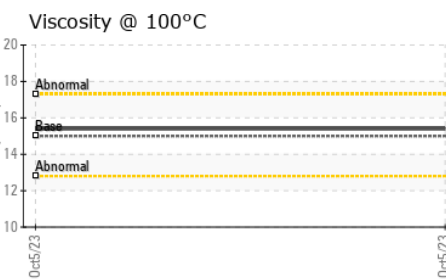
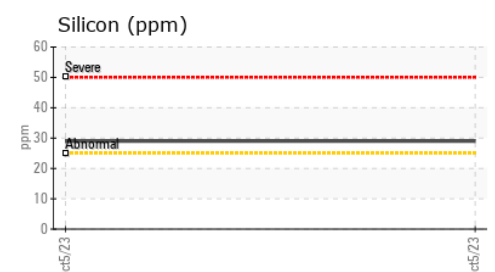
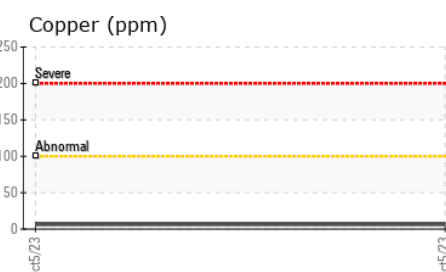
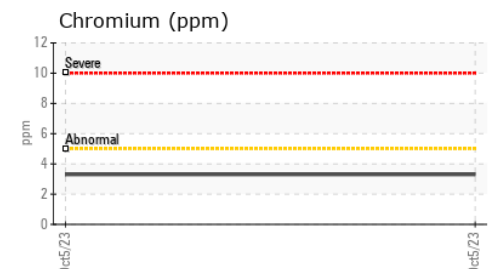
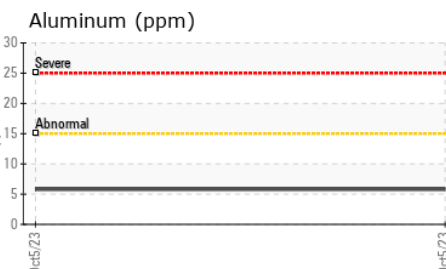
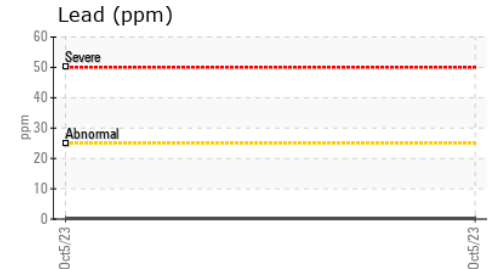
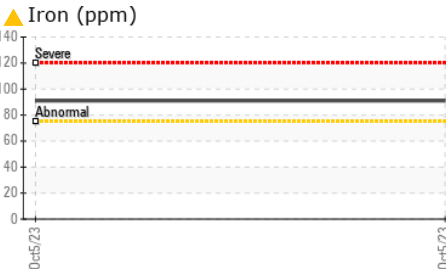


FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs./1mm	ASTM D7414*	>25	<b>36.3</b>	---	---

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

FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D7279(m)	110	<b>118</b>	---	---
Visc @ 100°C	cSt	ASTM D7279(m)	15.0	<b>15.4</b>	---	---
Viscosity Index (VI)	Scale	ASTM D2270*	140	<b>136</b>	---	---

## GRAPHS



**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9  
**Sample No.** : PC0075228 **Received** : 15 Dec 2023  
**Lab Number** : 02603443 **Diagnosed** : 19 Dec 2023  
**Unique Number** : 5696528 **Diagnostician** : Kevin Marson  
**Test Package** : MOB 1 ( Additional Tests: Glycol, KV40, PQ, VI )

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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.