

**GLYCOL**



Machine Id  
**SPARTAN 25045 R-444**  
Component  
**Front Diesel Engine**  
Fluid  
**CASTROL HYPURON 15W40 (24 LTR)**

**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**

All component wear rates are normal.

**Contamination**

Water treatment chemicals present, indicating slow coolant leak. Test for glycol is negative. There is no indication of any contamination in the oil.

**Fluid Condition**

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>PC0085038</b>	PC0067231	AP96953
Sample Date	Client Info			<b>19 May 2024</b>	15 Feb 2023	13 Nov 2019
Machine Age	kms	Client Info		<b>158385</b>	0	112306
Oil Age	kms	Client Info		<b>0</b>	6	0
Oil Changed	Client Info			<b>Changed</b>	Changed	Changed
Sample Status				<b>ABNORMAL</b>	NORMAL	NORMAL

CONTAMINATION		method	limit/base	current	history1	history2
Fuel	WC Method	>3.0		<b>&lt;1.0</b>	<1.0	<1.0
Water	WC Method	>0.2		<b>NEG</b>	NEG	NEG

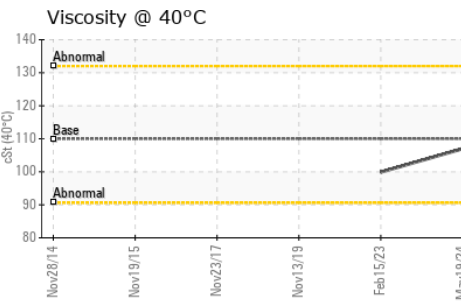
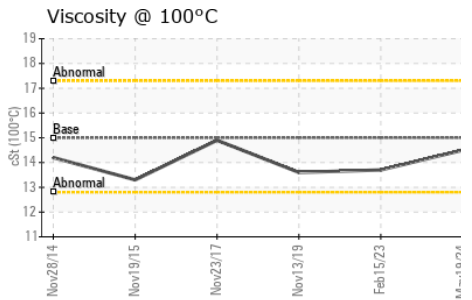
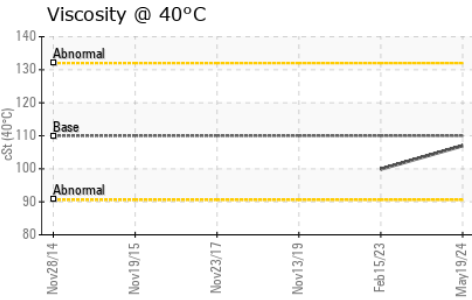
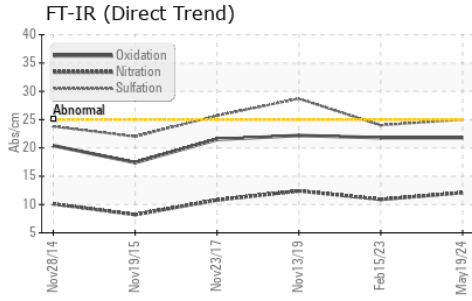
WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185(m)	>75	<b>31</b>	29	23
Chromium	ppm	ASTM D5185(m)	>5	<b>&lt;1</b>	1	<1
Nickel	ppm	ASTM D5185(m)	>4	<b>0</b>	<1	<1
Titanium	ppm	ASTM D5185(m)	>2	<b>0</b>	<1	<1
Silver	ppm	ASTM D5185(m)	>2	<b>&lt;1</b>	0	<1
Aluminum	ppm	ASTM D5185(m)	>15	<b>2</b>	3	2
Lead	ppm	ASTM D5185(m)	>25	<b>&lt;1</b>	<1	4
Copper	ppm	ASTM D5185(m)	>100	<b>2</b>	1	3
Tin	ppm	ASTM D5185(m)	>4	<b>0</b>	<1	<1
Antimony	ppm	ASTM D5185(m)		<b>0</b>	<1	<1
Vanadium	ppm	ASTM D5185(m)		<b>0</b>	0	0
Beryllium	ppm	ASTM D5185(m)		<b>0</b>	0	0
Cadmium	ppm	ASTM D5185(m)		<b>0</b>	0	0

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185(m)		<b>7</b>	4	30
Barium	ppm	ASTM D5185(m)		<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185(m)		<b>70</b>	59	59
Manganese	ppm	ASTM D5185(m)		<b>&lt;1</b>	<1	<1
Magnesium	ppm	ASTM D5185(m)		<b>957</b>	955	1009
Calcium	ppm	ASTM D5185(m)		<b>1077</b>	1095	1218
Phosphorus	ppm	ASTM D5185(m)		<b>952</b>	1040	1053
Zinc	ppm	ASTM D5185(m)		<b>1185</b>	1160	1282
Sulfur	ppm	ASTM D5185(m)		<b>2540</b>	2593	2903
Lithium	ppm	ASTM D5185(m)		<b>&lt;1</b>	<1	<1

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m)	>25	<b>8</b>	5	5
Sodium	ppm	ASTM D5185(m)		<b>246</b>	2	<1
Potassium	ppm	ASTM D5185(m)	>20	<b>68</b>	2	3
Glycol	%	ASTM D7922*		<b>0.0</b>	NEG	NEG

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	ASTM D7844*	>6	<b>1</b>	0.9	0.9
Nitration	Abs/cm	ASTM D7624*	>20	<b>12.1</b>	10.9	12.4
Sulfation	Abs/.1mm	ASTM D7415*	>30	<b>25.0</b>	24.0	28.7

# OIL ANALYSIS REPORT

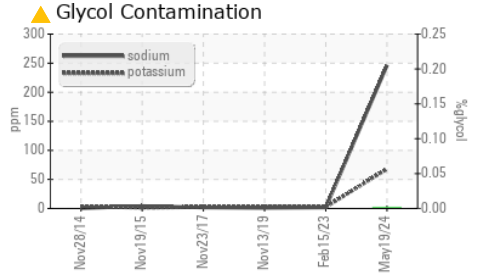
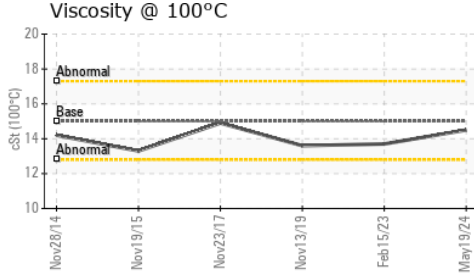
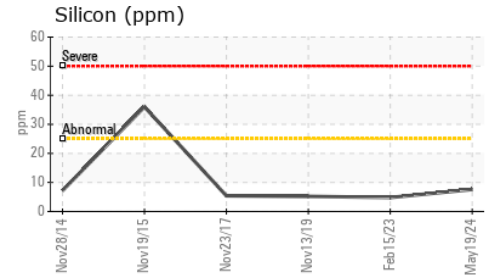
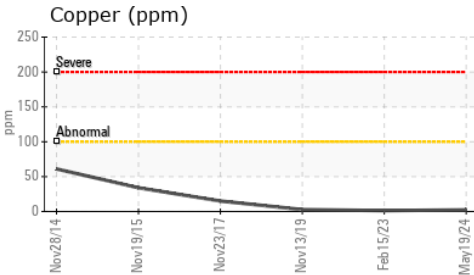
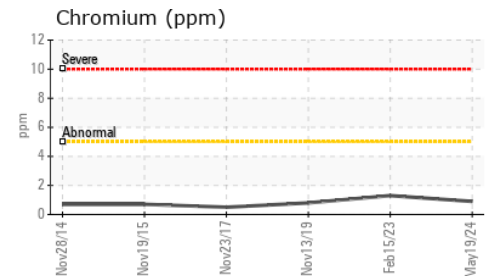
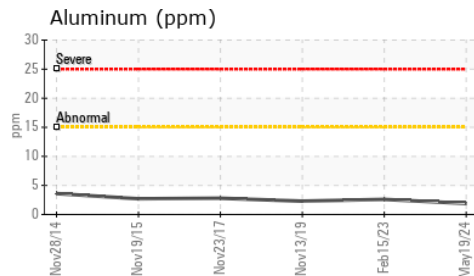
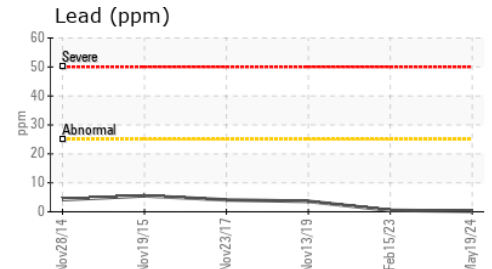
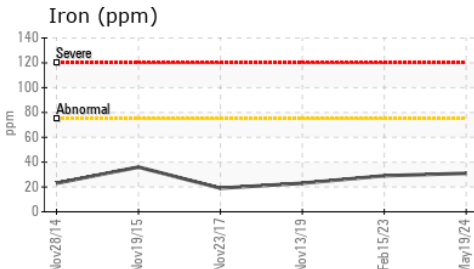


FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs./1mm	ASTM D7414*	>25	<b>21.8</b>	21.8	22.2

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

FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D7279(m)	110	<b>107</b>	99.9	---
Visc @ 100°C	cSt	ASTM D7279(m)	15.0	<b>14.5</b>	13.7	13.6
Viscosity Index (VI)	Scale	ASTM D2270*	140	<b>139</b>	137	---

## GRAPHS



**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9  
**Sample No.** : PC0085038  
**Lab Number** : 02642523  
**Unique Number** : 5800062  
**Test Package** : MOB 1 ( Additional Tests: Glycol, KV40, VI, Visual )  
**Received** : 18 Jun 2024  
**Tested** : 19 Jun 2024  
**Diagnosed** : 20 Jun 2024 - Kevin Marson

**TORONTO FIRE SERVICES**  
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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.