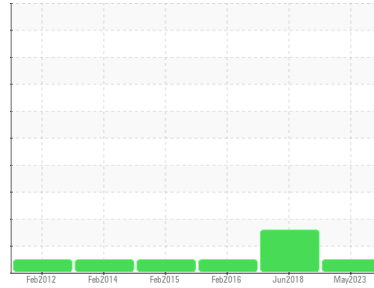




Machine Id  
**2009 SPARTAN 25027-R341**  
Component  
**Front Diesel Engine**  
Fluid  
**CASTROL 15W40 (25 LTR)**



**DIAGNOSIS**

**Recommendation**  
Resample at the next service interval to monitor.

**Wear**  
All component wear rates are normal.

**Contamination**  
There is no indication of any contamination in the oil.

**Fluid Condition**  
The condition of the oil is acceptable for the time in service.

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

Sample Number	Client Info	<b>PC0075264</b>	AP103377	AP102191
Sample Date	Client Info	<b>21 May 2023</b>	29 Jun 2018	17 Feb 2016
Machine Age	mths	Client Info	0	120443
Oil Age	mths	Client Info	6	0
Oil Changed	Client Info	<b>Changed</b>	Changed	Changed
Sample Status		<b>NORMAL</b>	ABNORMAL	NORMAL

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

Fuel	WC Method	>3.0	<b>&lt;1.0</b>	<1.0	<1.0
Glycol	WC Method		<b>NEG</b>	NEG	NEG

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

Iron	ppm	ASTM D5185(m)	>75	<b>27</b>	33	28
Chromium	ppm	ASTM D5185(m)	>5	<b>&lt;1</b>	2	<1
Nickel	ppm	ASTM D5185(m)	>4	<b>&lt;1</b>	0	<1
Titanium	ppm	ASTM D5185(m)	>2	<b>0</b>	<1	<1
Silver	ppm	ASTM D5185(m)	>2	<b>&lt;1</b>	<1	0
Aluminum	ppm	ASTM D5185(m)	>15	<b>2</b>	3	4
Lead	ppm	ASTM D5185(m)	>25	<b>&lt;1</b>	8	3
Copper	ppm	ASTM D5185(m)	>100	<b>&lt;1</b>	6	3
Tin	ppm	ASTM D5185(m)	>4	<b>0</b>	0	<1
Antimony	ppm	ASTM D5185(m)		<b>0</b>	0	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>14</b>	16	25
Barium	ppm	ASTM D5185(m)		<b>&lt;1</b>	<1	<1
Molybdenum	ppm	ASTM D5185(m)		<b>61</b>	34	<1
Manganese	ppm	ASTM D5185(m)		<b>0</b>	<1	<1
Magnesium	ppm	ASTM D5185(m)		<b>982</b>	495	10
Calcium	ppm	ASTM D5185(m)		<b>1061</b>	1602	2482
Phosphorus	ppm	ASTM D5185(m)		<b>995</b>	990	985
Zinc	ppm	ASTM D5185(m)		<b>1213</b>	1161	1229
Sulfur	ppm	ASTM D5185(m)		<b>2568</b>	2908	3375
Lithium	ppm	ASTM D5185(m)		<b>&lt;1</b>	0	<1

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

Silicon	ppm	ASTM D5185(m)	>25	<b>8</b>	▲ 33	6
Sodium	ppm	ASTM D5185(m)	>406	<b>6</b>	6	4
Potassium	ppm	ASTM D5185(m)	>20	<b>0</b>	<1	2

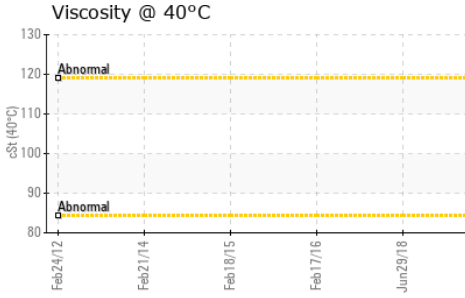
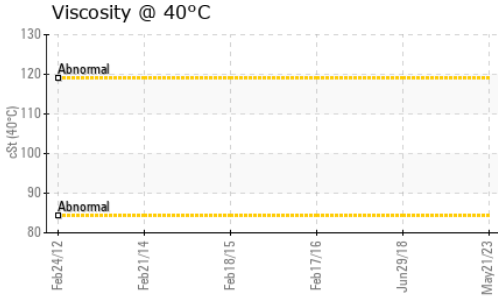
**INFRA-RED** method limit/base current history1 history2

Soot %	%	ASTM D7844*	>6	<b>0.4</b>	0.3	0.5
Nitration	Abs/cm	ASTM D7624*	>20	<b>14.3</b>	11.5	10.4
Sulfation	Abs/.1mm	ASTM D7415*	>30	<b>26.4</b>	24.4	25.1

**FLUID DEGRADATION** method limit/base current history1 history2

Oxidation	Abs/.1mm	ASTM D7414*	>25	<b>28.8</b>	21.9	21.8
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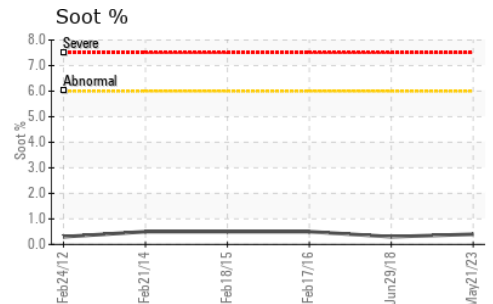
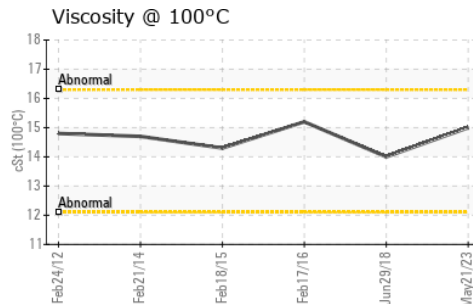
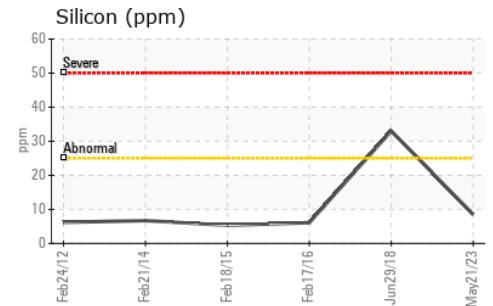
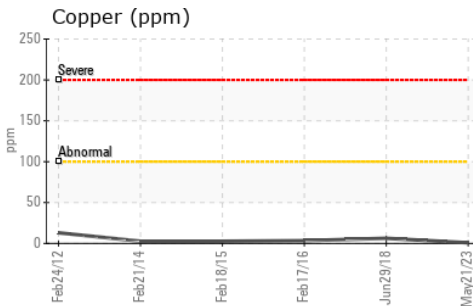
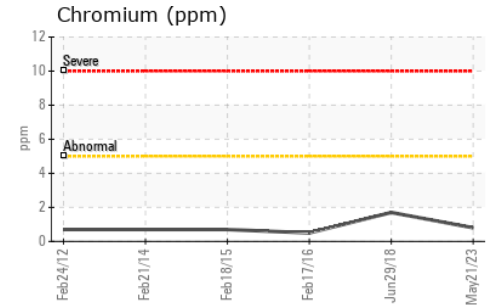
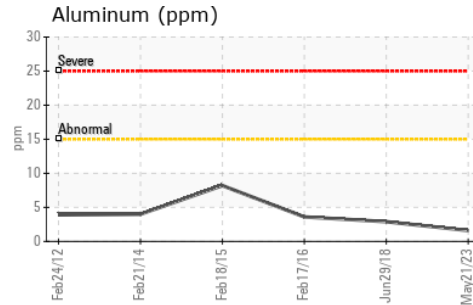
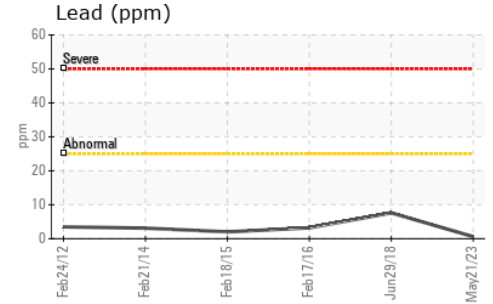
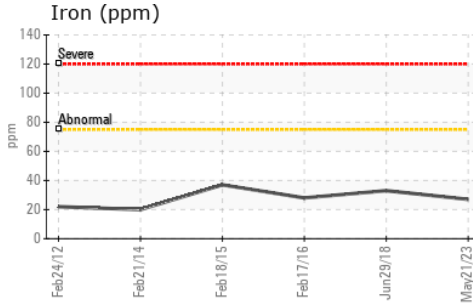
# OIL ANALYSIS REPORT



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

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D7279(m)	117	---	---
Visc @ 100°C	cSt	ASTM D7279(m)	15.0	14.0	15.2
Viscosity Index (VI)	Scale	ASTM D2270*	132	---	---

## GRAPHS



**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9  
**Sample No.** : PC0075264 **Received** : 06 Nov 2023  
**Lab Number** : 02594136 **Diagnosed** : 06 Nov 2023  
**Unique Number** : 5671215 **Diagnostician** : Kevin Marson  
**Test Package** : MOB 1 ( Additional Tests: KV40, VI )

**TORONTO FIRE SERVICES**  
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 TORONTO, ON  
 CA M9L 1X6  
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 antonio.rodrigues@tonroto.ca  
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 F: (416)338-9207

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.