

Machine Id  
**2010 SPARTAN 25039 (R423)**

Component  
**Front Diesel Engine**

Fluid  
**CASTROL HYPURON 15W40 (27 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>PC0083809</b>	AP96975	AP109932
Sample Date	Client Info			<b>12 Jan 2024</b>	16 Sep 2019	12 Nov 2018
Machine Age	mths	Client Info		<b>0</b>	124309	111463
Oil Age	mths	Client Info		<b>6</b>	0	0
Oil Changed	Client Info			<b>N/A</b>	Changed	Changed
Sample Status				<b>NORMAL</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

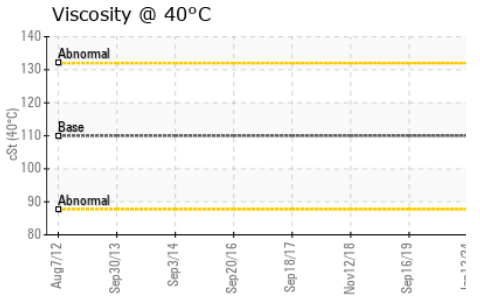
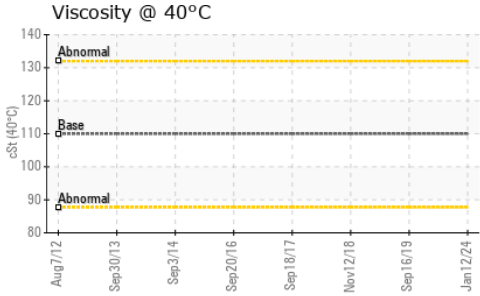
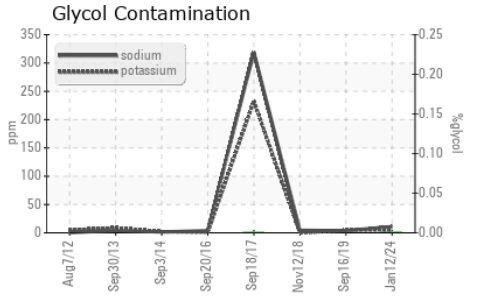
WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185(m)	>75	<b>21</b>	21	23
Chromium	ppm	ASTM D5185(m)	>5	<b>&lt;1</b>	<1	<1
Nickel	ppm	ASTM D5185(m)	>4	<b>&lt;1</b>	0	0
Titanium	ppm	ASTM D5185(m)	>2	<b>0</b>	<1	<1
Silver	ppm	ASTM D5185(m)	>2	<b>&lt;1</b>	<1	0
Aluminum	ppm	ASTM D5185(m)	>15	<b>3</b>	3	3
Lead	ppm	ASTM D5185(m)	>25	<b>2</b>	6	3
Copper	ppm	ASTM D5185(m)	>100	<b>5</b>	5	<1
Tin	ppm	ASTM D5185(m)	>4	<b>0</b>	0	0
Antimony	ppm	ASTM D5185(m)		<b>0</b>	<1	0
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	<1

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185(m)		<b>3</b>	25	10
Barium	ppm	ASTM D5185(m)		<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185(m)		<b>58</b>	58	47
Manganese	ppm	ASTM D5185(m)		<b>0</b>	<1	<1
Magnesium	ppm	ASTM D5185(m)		<b>886</b>	987	691
Calcium	ppm	ASTM D5185(m)		<b>997</b>	1169	1296
Phosphorus	ppm	ASTM D5185(m)		<b>879</b>	986	957
Zinc	ppm	ASTM D5185(m)		<b>1046</b>	1213	1159
Sulfur	ppm	ASTM D5185(m)		<b>2524</b>	2831	2783
Lithium	ppm	ASTM D5185(m)		<b>&lt;1</b>	<1	0

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m)	>25	<b>6</b>	10	3
Sodium	ppm	ASTM D5185(m)		<b>11</b>	4	4
Potassium	ppm	ASTM D5185(m)	>20	<b>5</b>	4	<1
Glycol	%	ASTM D7922*		<b>0.0</b>	NEG	NEG

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	ASTM D7844*	>6	<b>0.7</b>	0.5	4
Nitration	Abs/cm	ASTM D7624*	>20	<b>11.7</b>	12.7	11.3
Sulfation	Abs/.1mm	ASTM D7415*	>30	<b>26.4</b>	28.9	28.5

# OIL ANALYSIS REPORT

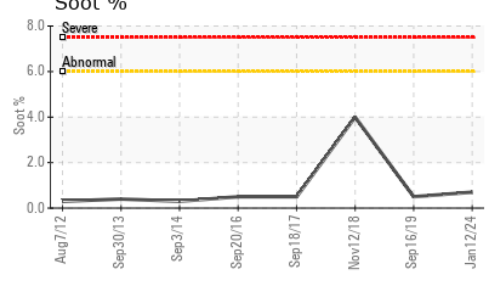
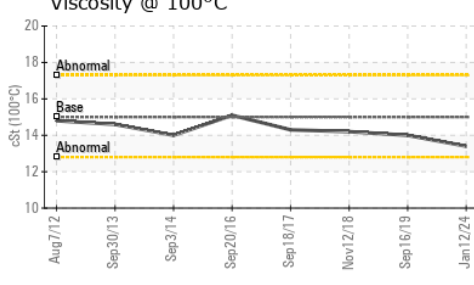
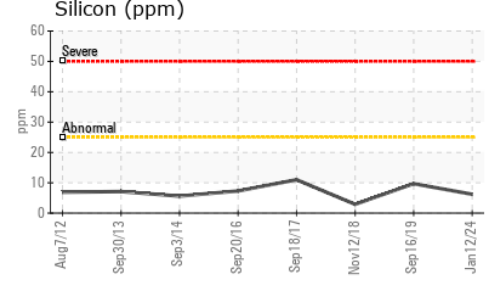
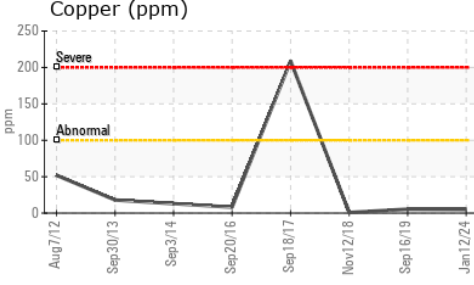
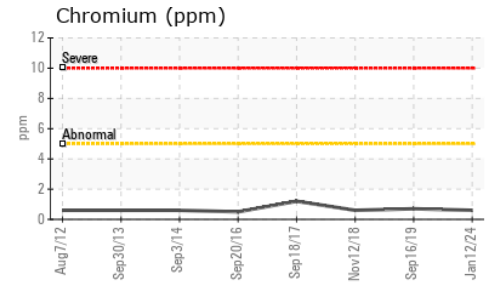
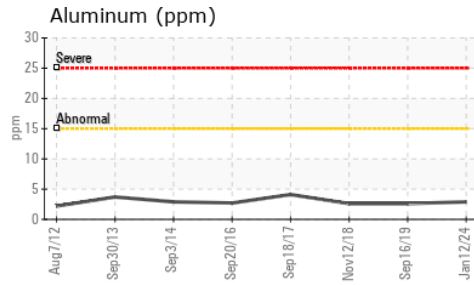
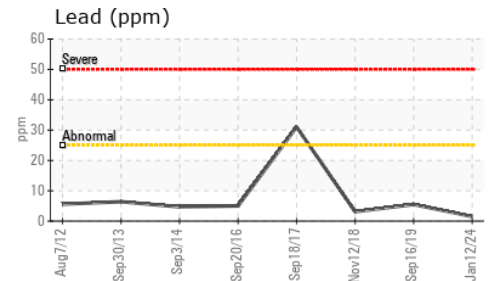
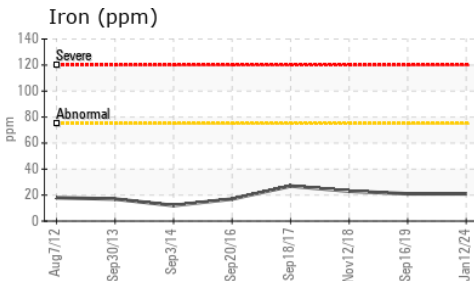


FLUID DEGRADATION	method	limit/base	current	history1	history2
Oxidation	Abs./1mm	ASTM D7414*	>25	27.5	24.6

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)	110	96.6	---
Visc @ 100°C	cSt	ASTM D7279(m)	15.0	13.4	14.0
Viscosity Index (VI)	Scale	ASTM D2270*	140	138	---

## GRAPHS



**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9  
**Sample No.** : PC0083809  
**Lab Number** : 02619145  
**Unique Number** : 5736255  
**Test Package** : MOB 1 ( Additional Tests: Glycol, KV40, VI )

**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.*