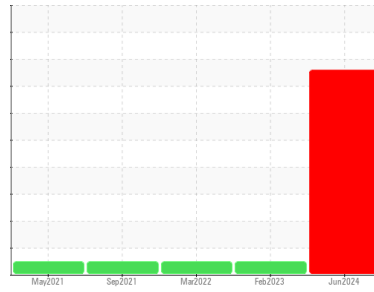




# OIL ANALYSIS REPORT

Sample Rating Trend



WEAR



Machine Id  
**TICO 824-8352**  
 Component  
**Front Diesel Engine**  
 Fluid  
**DIESEL ENGINE OIL SAE 15W40 (--- GAL)**

## DIAGNOSIS

### ▲ Recommendation

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 severe. Cylinder, crank, or cam shaft wear is indicated.

### ▲ Contamination

Light concentration of carbon/soot present in the oil.

### ▲ Fluid Condition

The oil viscosity is higher than normal. 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>WC0683838</b>	WC0776247	WC0636596
Sample Date	Client Info		<b>12 Jun 2024</b>	02 Feb 2023	03 Mar 2022
Machine Age	hrs	Client Info	<b>9431</b>	4682	2499
Oil Age	hrs	Client Info	<b>0</b>	0	0
Oil Changed	Client Info		<b>Changed</b>	Changed	Changed
Sample Status			<b>SEVERE</b>	NORMAL	NORMAL

## CONTAMINATION

	method	limit/base	current	history1	history2
Fuel	WC Method	>5	<b>&lt;1.0</b>	<1.0	<1.0
Water	WC Method	>0.2	<b>NEG</b>	NEG	NEG
Glycol	WC Method		<b>NEG</b>	NEG	NEG

## WEAR METALS

	method	limit/base	current	history1	history2
PQ	ASTM D8184*		<b>0</b>	---	---
Iron	ppm	ASTM D5185(m) >100	<b>▲ 370</b>	62	29
Chromium	ppm	ASTM D5185(m) >20	<b>10</b>	1	<1
Nickel	ppm	ASTM D5185(m) >4	<b>2</b>	<1	<1
Titanium	ppm	ASTM D5185(m)	<b>&lt;1</b>	<1	0
Silver	ppm	ASTM D5185(m) >3	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185(m) >20	<b>11</b>	5	4
Lead	ppm	ASTM D5185(m) >40	<b>0</b>	0	0
Copper	ppm	ASTM D5185(m) >330	<b>6</b>	3	3
Tin	ppm	ASTM D5185(m) >15	<b>&lt;1</b>	<1	<1
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	0

## ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185(m) 250	<b>14</b>	4	25
Barium	ppm	ASTM D5185(m) 10	<b>&lt;1</b>	0	<1
Molybdenum	ppm	ASTM D5185(m) 100	<b>72</b>	15	89
Manganese	ppm	ASTM D5185(m)	<b>4</b>	1	1
Magnesium	ppm	ASTM D5185(m) 450	<b>25</b>	15	26
Calcium	ppm	ASTM D5185(m) 3000	<b>2305</b>	2380	2276
Phosphorus	ppm	ASTM D5185(m) 1150	<b>917</b>	885	1012
Zinc	ppm	ASTM D5185(m) 1350	<b>1206</b>	1047	1151
Sulfur	ppm	ASTM D5185(m) 4250	<b>2667</b>	2812	3163
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>15</b>	11	14
Sodium	ppm	ASTM D5185(m) >158	<b>4</b>	3	3
Potassium	ppm	ASTM D5185(m) >20	<b>4</b>	2	2

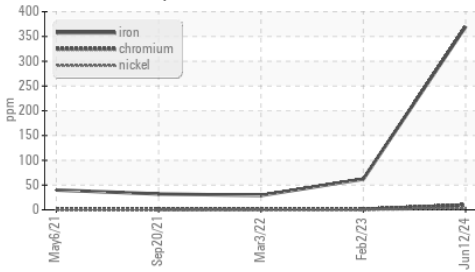
## INFRA-RED

	method	limit/base	current	history1	history2
Soot %	%	ASTM D7844* >3	<b>▲ 4.4</b>	0.2	0
Nitration	Abs/cm	ASTM D7624* >20	<b>31.4</b>	16.3	8.9
Sulfation	Abs./1mm	ASTM D7415* >30	<b>57.3</b>	35.8	22.4

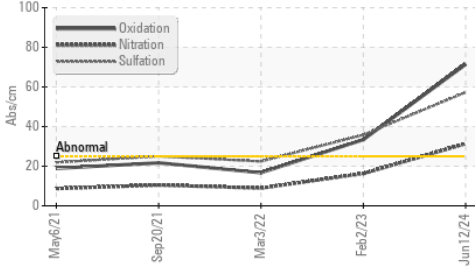


# OIL ANALYSIS REPORT

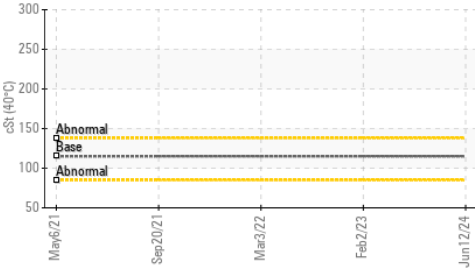
### ▲ Ferrous Alloys



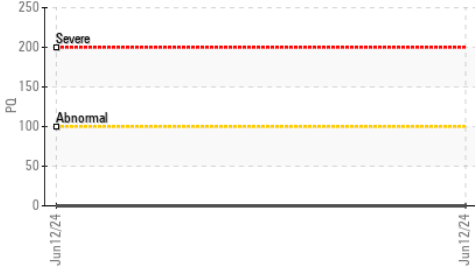
### ▲ FT-IR (Direct Trend)



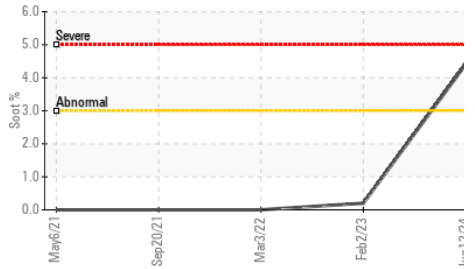
### ▲ Viscosity @ 40°C



### ▲ PQ



### ▲ Soot %



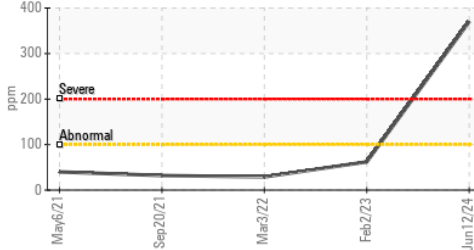
FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs./1mm	ASTM D7414*	>25	<b>71.4</b>	33.4	16.7

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

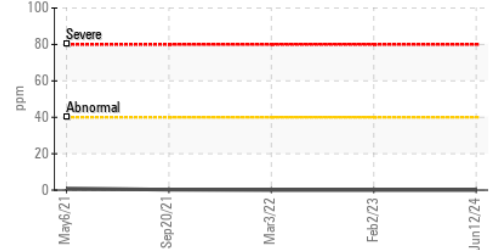
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D7279(m)	115	<b>▲ 278</b>	---	---
Visc @ 100°C	cSt	ASTM D7279(m)	14.4	<b>▲ 27.3</b>	15.1	13.8
Viscosity Index (VI)	Scale	ASTM D2270*	126	<b>129</b>	---	---

### GRAPHS

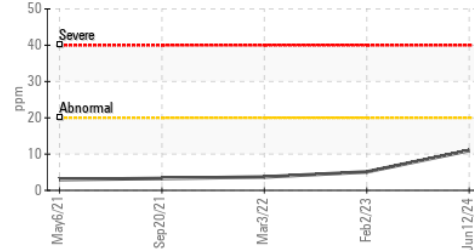
#### ▲ Iron (ppm)



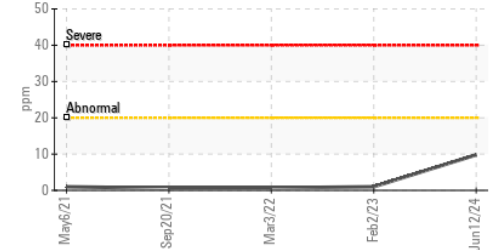
#### Lead (ppm)



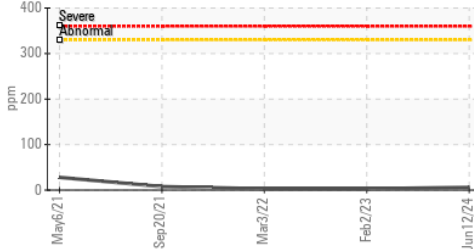
#### Aluminum (ppm)



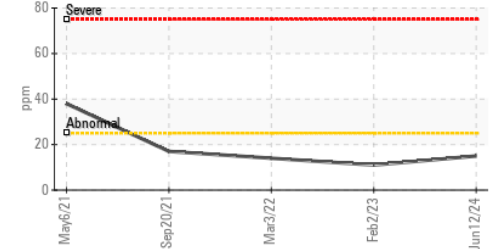
#### Chromium (ppm)



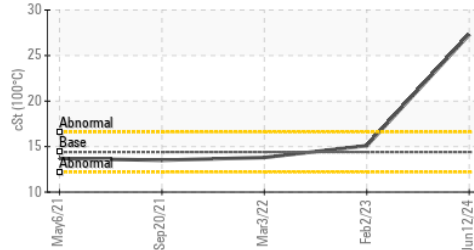
#### Copper (ppm)



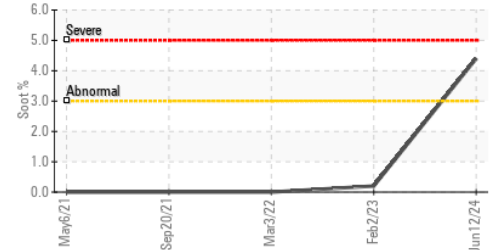
#### Silicon (ppm)



#### Viscosity @ 100°C



#### Soot %



**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9  
**Sample No.** : WC0683838      **Received** : 20 Jun 2024  
**Lab Number** : **02643113**      **Tested** : 20 Jun 2024  
**Unique Number** : 5800652      **Diagnosed** : 20 Jun 2024 - Kevin Marson  
**Test Package** : MOB 1 ( Additional Tests: KV40, PQ, VI )

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.

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