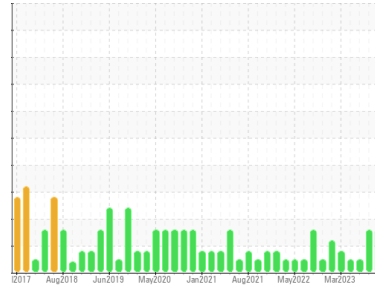




# OIL ANALYSIS REPORT

Sample Rating Trend



**SOOT**



Area  
**55000 Series**  
 Machine Id  
**Freightliner 55010**

Component  
**Diesel Engine**  
 Fluid  
**PETRO CANADA DURON SHP 15W40 (40 LTR)**

## DIAGNOSIS

### Recommendation

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

There is a moderate amount of fuel present in the oil. Light concentration of carbon/soot present in the oil. Tests confirm the presence of fuel in the oil.

### Fluid Condition

The oil is no longer serviceable due to the presence of contaminants.

## SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		<b>WC0844393</b>	WC0828175	WC0785901
Sample Date	Client Info		<b>14 Aug 2023</b>	18 Jul 2023	29 May 2023
Machine Age	mls	Client Info	<b>941530</b>	925738	915172
Oil Age	mls	Client Info	<b>15792</b>	10566	7377
Oil Changed	Client Info		<b>Changed</b>	Changed	Changed
Sample Status			<b>ABNORMAL</b>	ABNORMAL	NORMAL

## CONTAMINATION

	method	limit/base	current	history1	history2
Glycol	WC Method		<b>NEG</b>	NEG	NEG

## WEAR METALS

	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185(m) >200	<b>28</b>	31	21
Chromium	ppm	ASTM D5185(m) >10	<b>2</b>	2	1
Nickel	ppm	ASTM D5185(m) >4	<b>&lt;1</b>	<1	<1
Titanium	ppm	ASTM D5185(m) >2	<b>0</b>	0	<1
Silver	ppm	ASTM D5185(m) >2	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185(m) >30	<b>2</b>	3	2
Lead	ppm	ASTM D5185(m) >30	<b>2</b>	2	2
Copper	ppm	ASTM D5185(m) >30	<b>&lt;1</b>	<1	<1
Tin	ppm	ASTM D5185(m) >4	<b>&lt;1</b>	<1	<1
Antimony	ppm	ASTM D5185(m)	<b>0</b>	0	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) 0	<b>1</b>	1	4
Barium	ppm	ASTM D5185(m) 0	<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185(m) 60	<b>58</b>	57	59
Manganese	ppm	ASTM D5185(m) 0	<b>&lt;1</b>	<1	<1
Magnesium	ppm	ASTM D5185(m) 1010	<b>952</b>	941	929
Calcium	ppm	ASTM D5185(m) 1070	<b>1014</b>	993	1055
Phosphorus	ppm	ASTM D5185(m) 1150	<b>1020</b>	993	1037
Zinc	ppm	ASTM D5185(m) 1270	<b>1142</b>	1119	1127
Sulfur	ppm	ASTM D5185(m) 2060	<b>2431</b>	2388	2503
Lithium	ppm	ASTM D5185(m)	<b>&lt;1</b>	<1	<1

## CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m) >30	<b>2</b>	3	3
Sodium	ppm	ASTM D5185(m)	<b>9</b>	21	17
Potassium	ppm	ASTM D5185(m) >20	<b>&lt;1</b>	1	0
Fuel	%	ASTM D7593* >3.0	<b>▲ 3.5</b>	▲ 3.7	<1.0

## INFRA-RED

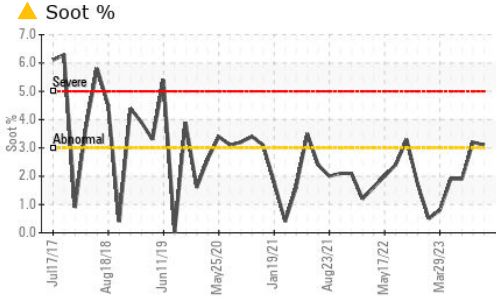
	method	limit/base	current	history1	history2
Soot %	%	ASTM D7844* >3	<b>▲ 3.1</b>	▲ 3.2	1.9
Nitration	Abs/cm	ASTM D7624* >20	<b>8.6</b>	9.2	7.1
Sulfation	Abs/.1mm	ASTM D7415* >30	<b>25.4</b>	25.8	21.9

## FLUID DEGRADATION

	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	ASTM D7414* >25	<b>15.3</b>	16.0	14.3

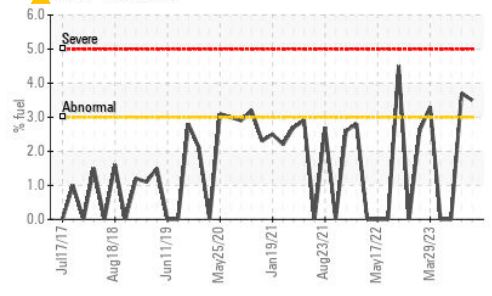
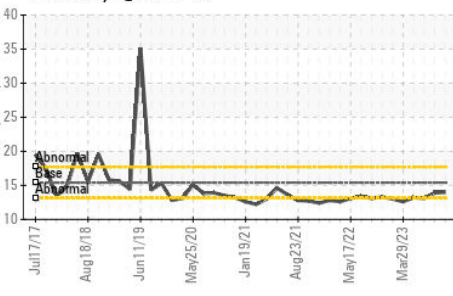
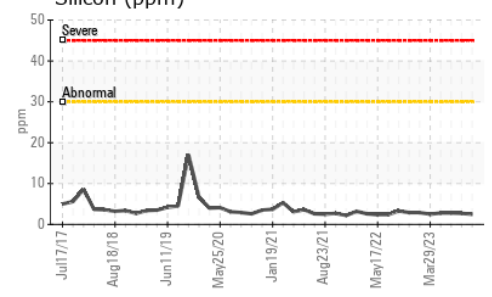
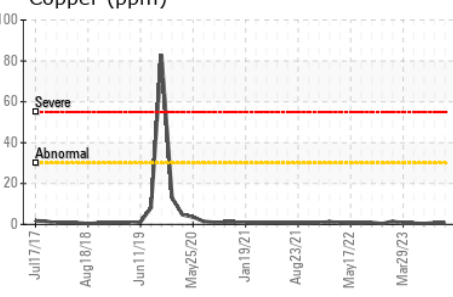
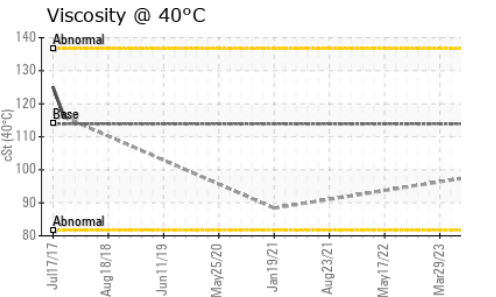
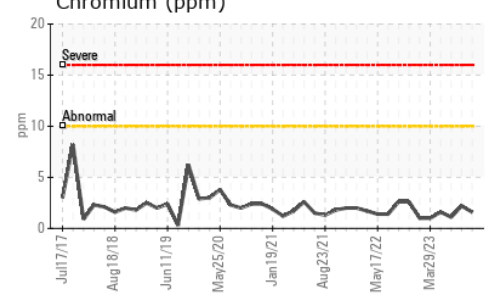
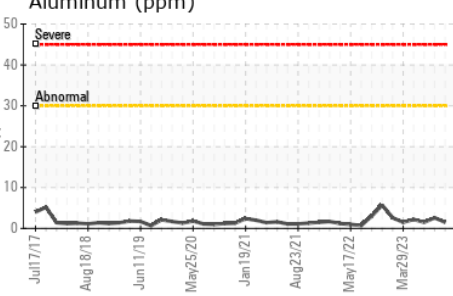
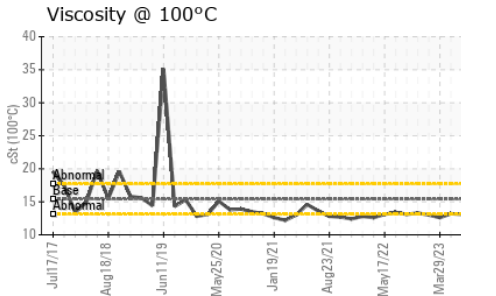
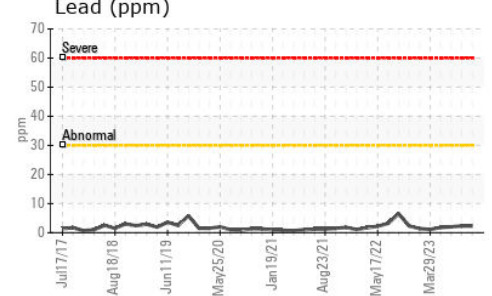
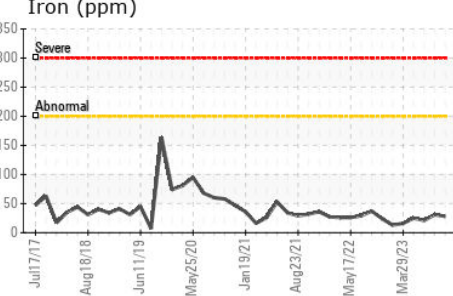
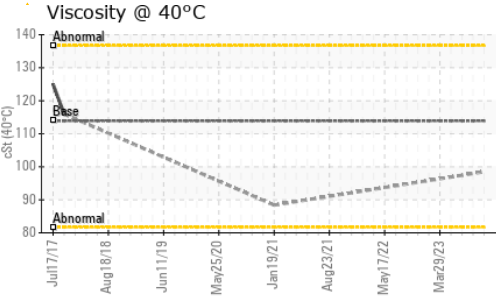


# OIL ANALYSIS REPORT



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)	113.9	98.5	---	---
Visc @ 100°C	cSt	ASTM D7279(m)	15.4	14.0	13.9	13.1
Viscosity Index (VI)	Scale	ASTM D2270*	142	144	---	---

## GRAPHS



**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9  
**Sample No.** : WC0844393      **Received** : 16 Aug 2023  
**Lab Number** : 02576089      **Diagnosed** : 17 Aug 2023  
**Unique Number** : 5629149      **Diagnostician** : Wes Davis  
**Test Package** : MOB 1 ( Additional Tests: KV40, PercentFuel, VI )

**MANITOU LIN TRANSPORT**  
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 LIVELY, ON  
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 Contact: Todd Smith  
 tosmith@manitoulintransport.com  
 T: (705)562-3302  
 F: x:

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.