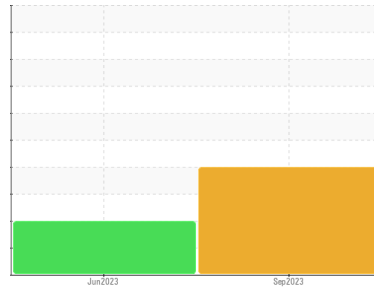


# PROBLEM SUMMARY

Machine Id  
**FREIGHTLINER 50**  
 Component  
**Diesel Engine**  
 Fluid  
**PETRO CANADA DURON SHP 15W40 (13 LTR)**

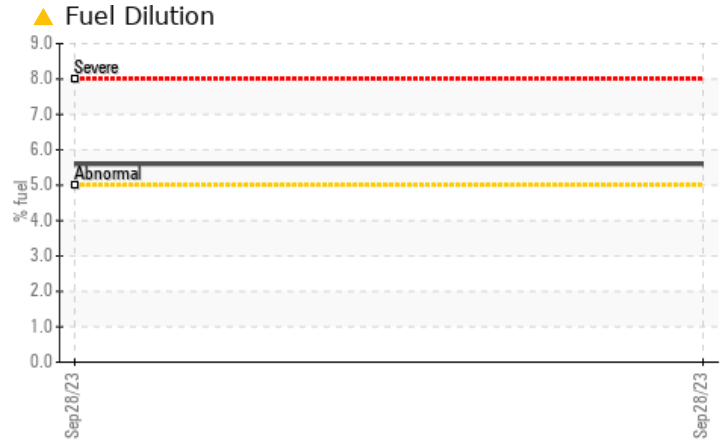
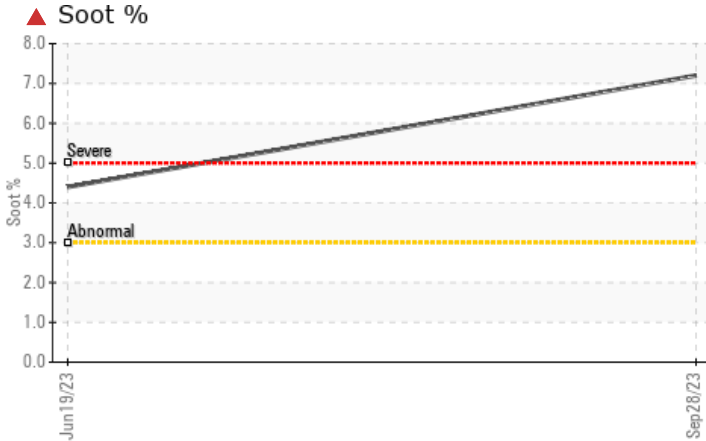
Sample Rating Trend



**SOOT**



## COMPONENT CONDITION SUMMARY



## RECOMMENDATION

We advise that you check for faulty combustion, plugged air filters, or aftercoolers. We advise that you check the fuel injection system. Oil and filter change at the time of sampling has been noted. We recommend an early resample to monitor this condition. NOTE: High solids (carbon/soot) in the sample have limited the accuracy of Infra-Red data including Total Base Number (TBN) value.

## PROBLEMATIC TEST RESULTS

Sample Status				SEVERE	ABNORMAL	---
Fuel	%	ASTM D3524	>5	▲ 5.6	<1.0	---
Soot %	%	*ASTM D7844	>3	▲ 7.2	▲ 4.4	---
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	▲ 0.0	▲ 0.0	---

Customer Id: ATRPIN  
 Sample No.: PCA0102594  
 Lab Number: 06188591  
 Test Package: FLEET



To manage this report scan the QR code

To discuss the diagnosis or test data:  
 Don Baldrige +1  
[don.b505@comcast.net](mailto:don.b505@comcast.net)

To change component or sample information:  
 Customer Service +1 1-800-237-1369  
[customerservice@wearcheck.com](mailto:customerservice@wearcheck.com)

## RECOMMENDED ACTIONS

Action	Status	Date	Done By	Description
Change Fluid	---	---	?	Oil and filter change at the time of sampling has been noted.
Change Filter	---	---	?	Oil and filter change at the time of sampling has been noted.
Resample	---	---	?	We recommend an early resample to monitor this condition.
Alert	---	---	?	NOTE: High solids (carbon/soot) in the sample have limited the accuracy of Infra-Red data including Total Base Number (TBN) value.
Check Combustion	---	---	?	We advise that you check for faulty combustion, plugged air filters, or aftercoolers.
Check Fuel/injector System	---	---	?	We advise that you check the fuel injection system.

## HISTORICAL DIAGNOSIS

### DEGRADATION

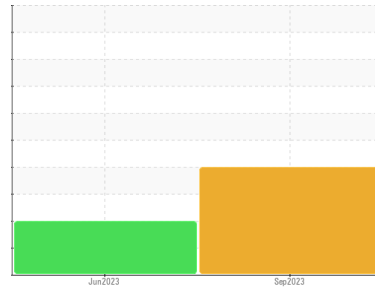


#### 19 Jun 2023 Diag: Don Baldrige

We advise that you check for faulty combustion, plugged air filters, or aftercoolers. Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor. NOTE: High solids (carbon/soot) in the sample have limited the accuracy of Infra-Red data including Total Base Number (TBN) value. All component wear rates are normal. There is an abnormal amount of solids and carbon present in the oil. The BN level is low.

view report





**SOOT**



Machine Id  
**FREIGHTLINER 50**  
 Component  
**Diesel Engine**  
 Fluid  
**PETRO CANADA DURON SHP 15W40 (13 LTR)**

## DIAGNOSIS

### ▲ Recommendation

We advise that you check for faulty combustion, plugged air filters, or aftercoolers. We advise that you check the fuel injection system. Oil and filter change at the time of sampling has been noted. We recommend an early resample to monitor this condition. NOTE: High solids (carbon/soot) in the sample have limited the accuracy of Infra-Red data including Total Base Number (TBN) value.

### Wear

All component wear rates are normal.

### ▲ Contamination

There is an abnormal amount of solids and carbon present in the oil. There is a moderate amount of fuel present in the oil.

### ▲ Fluid Condition

The BN level is low. 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>PCA0102594</b>	PCA0100705	---
Sample Date	Client Info		<b>28 Sep 2023</b>	19 Jun 2023	---
Machine Age	mls	Client Info	<b>806386</b>	778483	---
Oil Age	mls	Client Info	<b>28763</b>	28158	---
Oil Changed	Client Info		<b>Changed</b>	Changed	---
Sample Status			<b>SEVERE</b>	ABNORMAL	---

## CONTAMINATION

	method	limit/base	current	history1	history2
Water	WC Method	>0.2	<b>NEG</b>	NEG	---
Glycol	WC Method		<b>NEG</b>	NEG	---

## WEAR METALS

	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m >80	<b>81</b>	63	---
Chromium	ppm	ASTM D5185m >5	<b>4</b>	3	---
Nickel	ppm	ASTM D5185m >2	<b>&lt;1</b>	<1	---
Titanium	ppm	ASTM D5185m	<b>&lt;1</b>	0	---
Silver	ppm	ASTM D5185m >3	<b>&lt;1</b>	0	---
Aluminum	ppm	ASTM D5185m >30	<b>2</b>	2	---
Lead	ppm	ASTM D5185m >30	<b>34</b>	29	---
Copper	ppm	ASTM D5185m >150	<b>6</b>	4	---
Tin	ppm	ASTM D5185m >5	<b>3</b>	3	---
Vanadium	ppm	ASTM D5185m	<b>0</b>	0	---
Cadmium	ppm	ASTM D5185m	<b>0</b>	0	---

## ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m 0	<b>&lt;1</b>	0	---
Barium	ppm	ASTM D5185m 0	<b>0</b>	0	---
Molybdenum	ppm	ASTM D5185m 60	<b>58</b>	59	---
Manganese	ppm	ASTM D5185m 0	<b>&lt;1</b>	<1	---
Magnesium	ppm	ASTM D5185m 1010	<b>888</b>	986	---
Calcium	ppm	ASTM D5185m 1070	<b>1104</b>	1098	---
Phosphorus	ppm	ASTM D5185m 1150	<b>901</b>	955	---
Zinc	ppm	ASTM D5185m 1270	<b>1184</b>	1177	---
Sulfur	ppm	ASTM D5185m 2060	<b>2893</b>	3236	---

## CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >20	<b>13</b>	20	---
Sodium	ppm	ASTM D5185m	<b>1</b>	3	---
Potassium	ppm	ASTM D5185m >20	<b>4</b>	2	---
Fuel	%	ASTM D3524 >5	<b>▲ 5.6</b>	<1.0	---

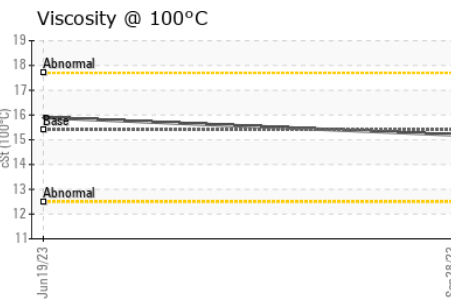
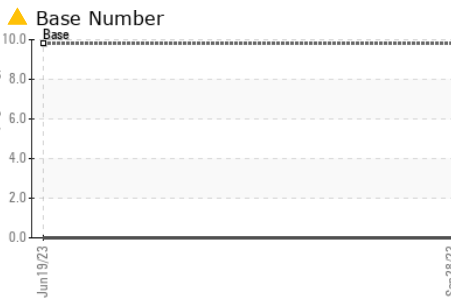
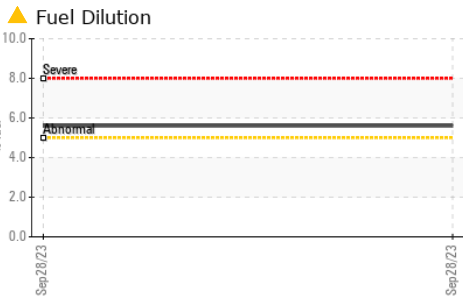
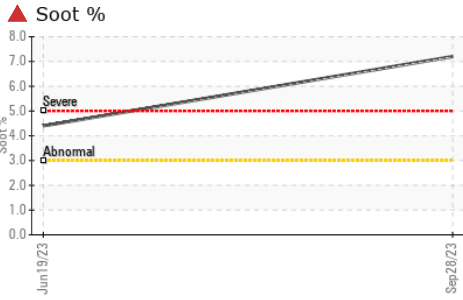
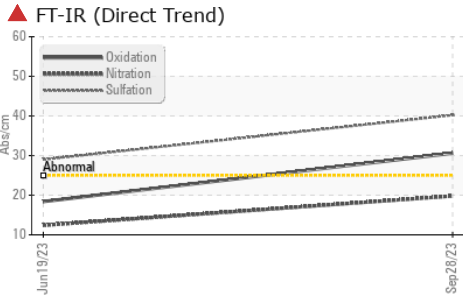
## INFRA-RED

	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844 >3	<b>▲ 7.2</b>	▲ 4.4	---
Nitration	Abs/cm	*ASTM D7624 >20	<b>19.8</b>	12.4	---
Sulfation	Abs/.1mm	*ASTM D7415 >30	<b>40.2</b>	29.0	---

## FLUID DEGRADATION

	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414 >25	<b>30.6</b>	18.4	---
Base Number (BN)	mg KOH/g	ASTM D2896 9.8	<b>▲ 0.0</b>	▲ 0.0	---

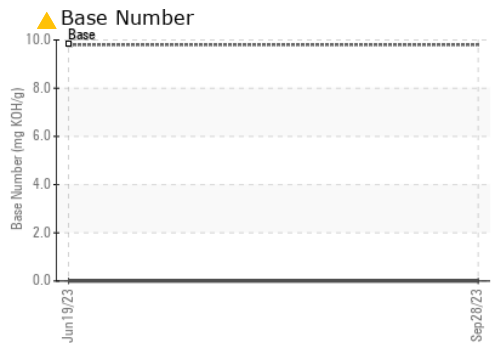
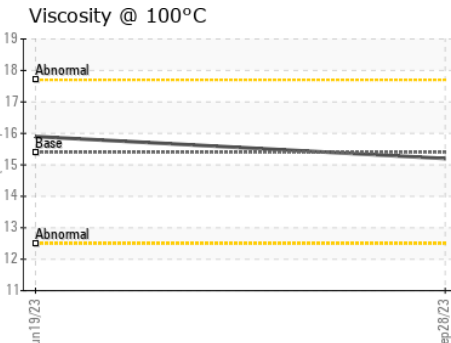
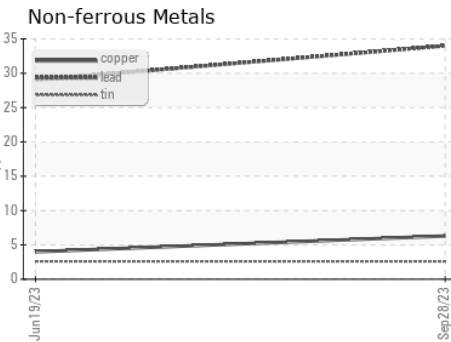
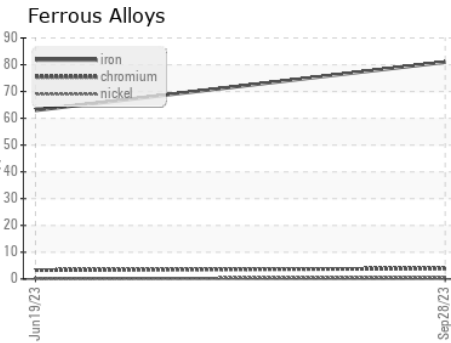
# OIL ANALYSIS REPORT



VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	---
Yellow Metal	scalar	*Visual	NONE	NONE	---
Precipitate	scalar	*Visual	NONE	NONE	---
Silt	scalar	*Visual	NONE	NONE	---
Debris	scalar	*Visual	NONE	NONE	---
Sand/Dirt	scalar	*Visual	NONE	NONE	---
Appearance	scalar	*Visual	NORML	NORML	---
Odor	scalar	*Visual	NORML	NORML	---
Emulsified Water	scalar	*Visual	>0.2	NEG	---
Free Water	scalar	*Visual		NEG	---

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.4	15.2	15.9

**GRAPHS**



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : PCA0102594 **Received** : 23 May 2024  
**Lab Number** : 06188591 **Tested** : 28 May 2024  
**Unique Number** : 11045343 **Diagnosed** : 28 May 2024 - Don Baldrige  
**Test Package** : FLEET ( Additional Tests: FuelDilution, PercentFuel )

**A Truck Repair**  
 9349 China Grove Church Road  
 Pineville, NC  
 US 28134  
 Contact: Vlad Melnichuk  
 shop@migway.com  
 T: (980)255-3200  
 F:

To discuss this sample report, contact Customer Service at 1-800-237-1369.

\* - Denotes test methods that are outside of the ISO 17025 scope of accreditation.

Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)