

**SOOT**



Machine Id  
**FREIGHTLINER 96**  
 Component  
**Diesel Engine**  
 Fluid  
**PETRO CANADA DURON SHP 15W40 (13 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 BN result indicates that there is suitable alkalinity remaining in the oil. 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>PCA0105010</b>	PCA0100619	---
Sample Date	Client Info			<b>28 Sep 2023</b>	06 Jul 2023	---
Machine Age	mls	Client Info		<b>335321</b>	309200	---
Oil Age	mls	Client Info		<b>28352</b>	27565	---
Oil Changed	Client Info			<b>Changed</b>	Changed	---
Sample Status				<b>ABNORMAL</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>33</b>	24	---
Chromium	ppm	ASTM D5185m	>5	<b>2</b>	<1	---
Nickel	ppm	ASTM D5185m	>2	<b>&lt;1</b>	0	---
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>1</b>	2	---
Lead	ppm	ASTM D5185m	>30	<b>23</b>	7	---
Copper	ppm	ASTM D5185m	>150	<b>3</b>	2	---
Tin	ppm	ASTM D5185m	>5	<b>2</b>	<1	---
Vanadium	ppm	ASTM D5185m		<b>0</b>	0	---
Cadmium	ppm	ASTM D5185m		<b>0</b>	0	---

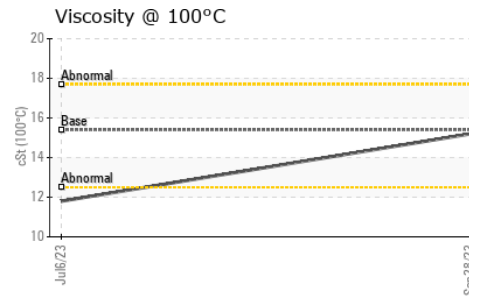
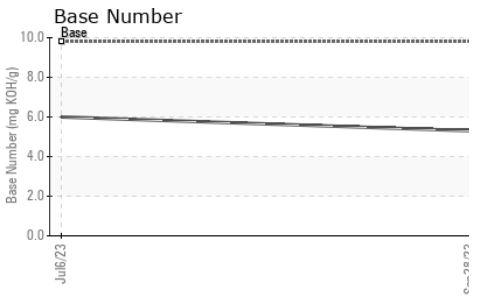
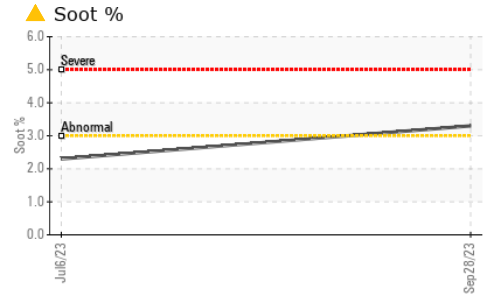
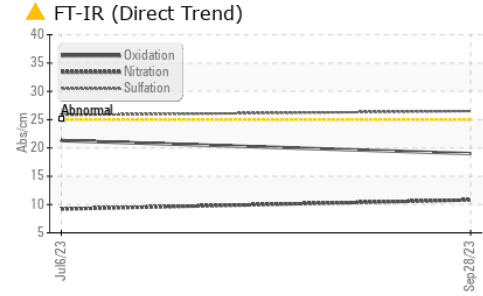
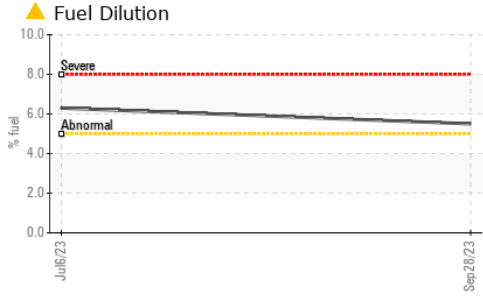
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	0	<b>5</b>	2	---
Barium	ppm	ASTM D5185m	0	<b>0</b>	0	---
Molybdenum	ppm	ASTM D5185m	60	<b>59</b>	56	---
Manganese	ppm	ASTM D5185m	0	<b>&lt;1</b>	<1	---
Magnesium	ppm	ASTM D5185m	1010	<b>882</b>	787	---
Calcium	ppm	ASTM D5185m	1070	<b>1111</b>	1081	---
Phosphorus	ppm	ASTM D5185m	1150	<b>916</b>	939	---
Zinc	ppm	ASTM D5185m	1270	<b>1159</b>	1095	---
Sulfur	ppm	ASTM D5185m	2060	<b>3035</b>	3069	---

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>20	<b>9</b>	3	---
Sodium	ppm	ASTM D5185m		<b>0</b>	0	---
Potassium	ppm	ASTM D5185m	>20	<b>3</b>	3	---
Fuel	%	ASTM D3524	>5	<b>▲ 5.5</b>	▲ 6.3	---

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>3	<b>▲ 3.3</b>	2.3	---
Nitration	Abs/cm	*ASTM D7624	>20	<b>10.8</b>	9.2	---
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>26.5</b>	25.8	---

FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>19.0</b>	21.3	---
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	<b>5.3</b>	6.0	---

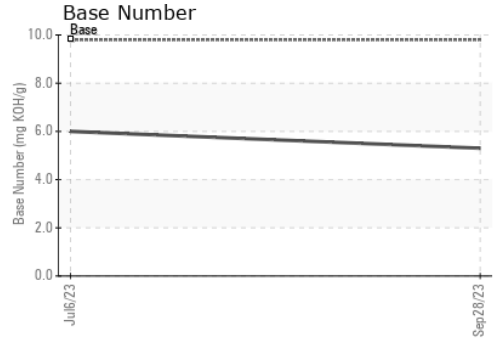
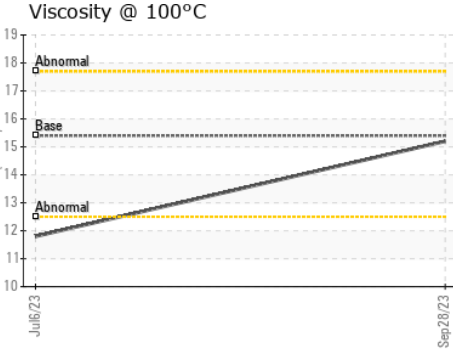
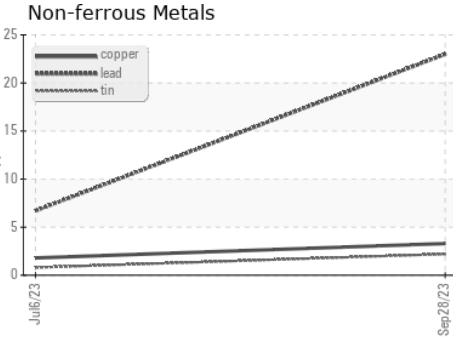
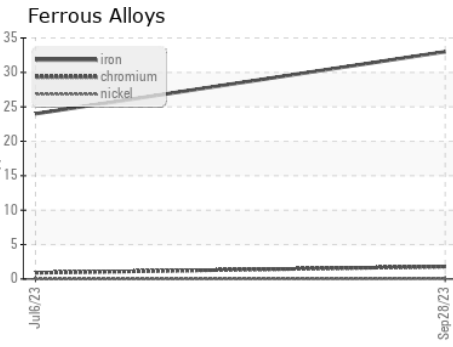
# OIL ANALYSIS REPORT



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	▲ 11.8

## GRAPHS



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : PCA0105010 **Received** : 23 May 2024  
**Lab Number** : 06188630 **Tested** : 28 May 2024  
**Unique Number** : 11045382 **Diagnosed** : 28 May 2024 - Wes Davis  
**Test Package** : FLEET ( Additional Tests: 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)