

# PROBLEM SUMMARY

Sample Rating Trend



**WEAR**



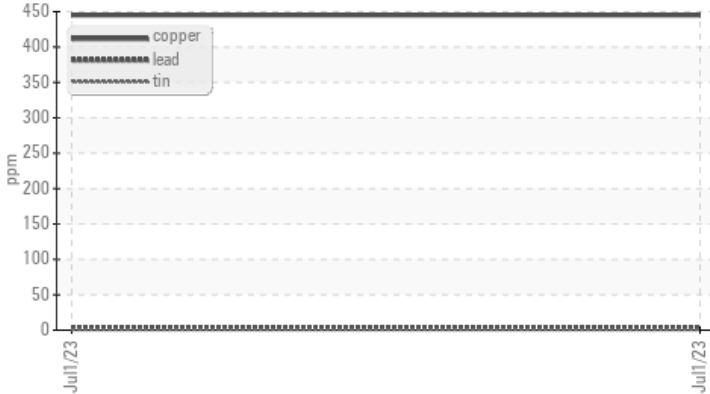
Machine Id  
**VOLVO TRUCK 182**

Component  
**Diesel Engine**

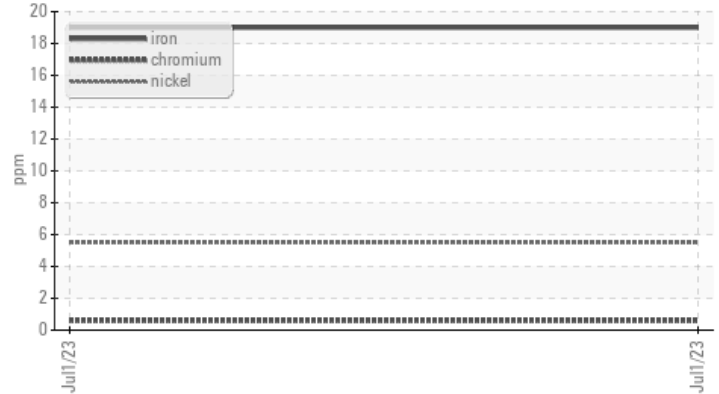
Fluid  
**PETRO CANADA DURON SHP 10W30 (--- GAL)**

## COMPONENT CONDITION SUMMARY

### ▲ Non-ferrous Metals



### ▲ Ferrous Alloys



## RECOMMENDATION

The oil change at the time of sampling has been noted. No corrective action is recommended at this time. Resample at the next service interval to monitor.

## PROBLEMATIC TEST RESULTS

Sample Status				<b>ABNORMAL</b>	---	---
Nickel	ppm	ASTM D5185m	>2	▲ 6	---	---
Copper	ppm	ASTM D5185m	>330	▲ 445	---	---

Customer Id: TVAPLAIL  
Sample No.: PCA0097572  
Lab Number: 05905119  
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

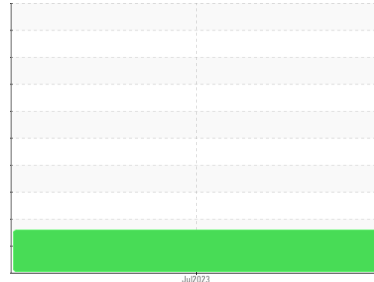
*There are no recommended actions for this sample.*

## HISTORICAL DIAGNOSIS

Machine Id  
**VOLVO TRUCK 182**

Component  
**Diesel Engine**

Fluid  
**PETRO CANADA DURON SHP 10W30 (--- GAL)**



## DIAGNOSIS

### Recommendation

The oil change at the time of sampling has been noted. No corrective action is recommended at this time. Resample at the next service interval to monitor.

### Wear

The copper level is abnormal. Valve wear is indicated. Elemental level of copper (Cu) probably due to leaching of copper from copper components (i.e. cooling core) by the oil additives.

### Contamination

There is no indication of any contamination in the oil.

### Fluid Condition

The BN result indicates that there is suitable alkalinity remaining in the oil. 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>PCA0097572</b>	---	---
Sample Date	Client Info		<b>01 Jul 2023</b>	---	---
Machine Age	mls	Client Info	<b>83000</b>	---	---
Oil Age	mls	Client Info	<b>0</b>	---	---
Oil Changed	Client Info		<b>Changed</b>	---	---
Sample Status			<b>ABNORMAL</b>	---	---

## CONTAMINATION

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

## WEAR METALS

	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m >100	<b>19</b>	---	---
Chromium	ppm	ASTM D5185m >20	<b>&lt;1</b>	---	---
Nickel	ppm	ASTM D5185m >2	<b>▲ 6</b>	---	---
Titanium	ppm	ASTM D5185m >2	<b>&lt;1</b>	---	---
Silver	ppm	ASTM D5185m >2	<b>&lt;1</b>	---	---
Aluminum	ppm	ASTM D5185m >25	<b>8</b>	---	---
Lead	ppm	ASTM D5185m >40	<b>4</b>	---	---
Copper	ppm	ASTM D5185m >330	<b>▲ 445</b>	---	---
Tin	ppm	ASTM D5185m >15	<b>&lt;1</b>	---	---
Vanadium	ppm	ASTM D5185m	<b>&lt;1</b>	---	---
Cadmium	ppm	ASTM D5185m	<b>0</b>	---	---

## ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m 2	<b>0</b>	---	---
Barium	ppm	ASTM D5185m 0	<b>0</b>	---	---
Molybdenum	ppm	ASTM D5185m 50	<b>65</b>	---	---
Manganese	ppm	ASTM D5185m 0	<b>1</b>	---	---
Magnesium	ppm	ASTM D5185m 950	<b>1042</b>	---	---
Calcium	ppm	ASTM D5185m 1050	<b>1189</b>	---	---
Phosphorus	ppm	ASTM D5185m 995	<b>1067</b>	---	---
Zinc	ppm	ASTM D5185m 1180	<b>1237</b>	---	---
Sulfur	ppm	ASTM D5185m 2600	<b>3147</b>	---	---

## CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >25	<b>6</b>	---	---
Sodium	ppm	ASTM D5185m	<b>2</b>	---	---
Potassium	ppm	ASTM D5185m >20	<b>20</b>	---	---

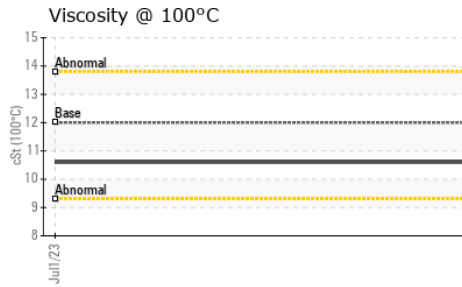
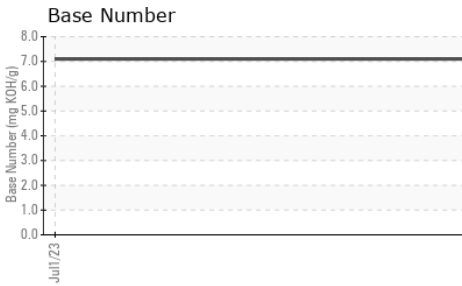
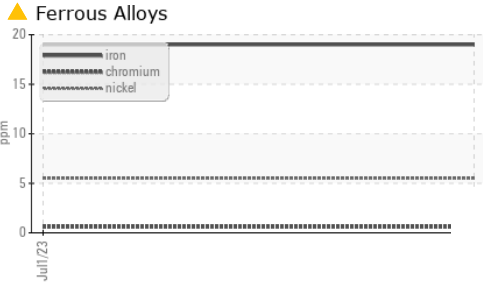
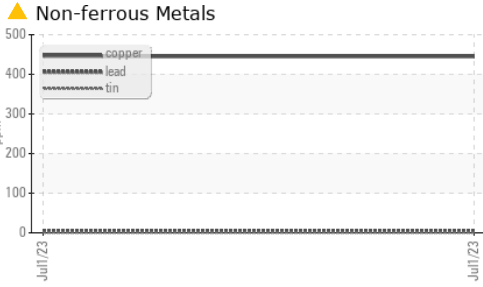
## INFRA-RED

	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844 >3	<b>0.2</b>	---	---
Nitration	Abs/cm	*ASTM D7624 >20	<b>8.8</b>	---	---
Sulfation	Abs/.1mm	*ASTM D7415 >30	<b>19.4</b>	---	---

## FLUID DEGRADATION

	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414 >25	<b>16.1</b>	---	---
Base Number (BN)	mg KOH/g	ASTM D2896	<b>7.1</b>	---	---

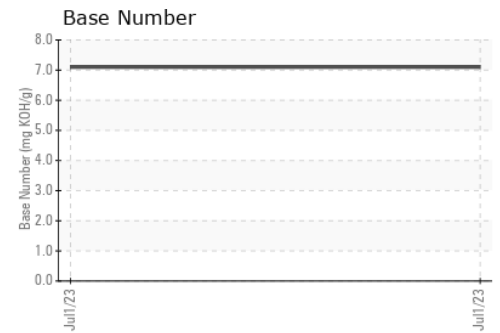
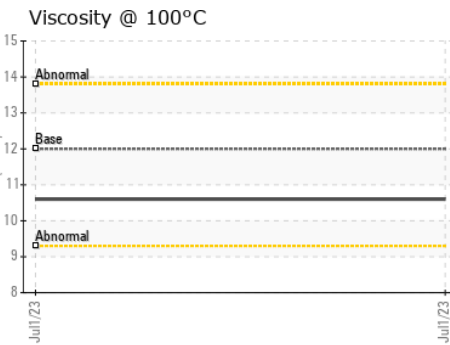
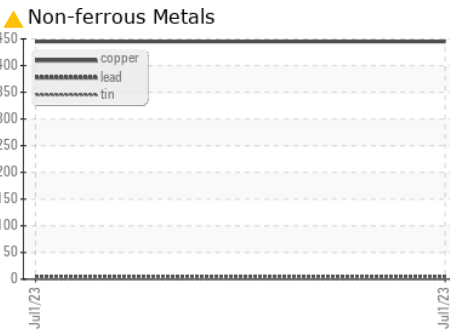
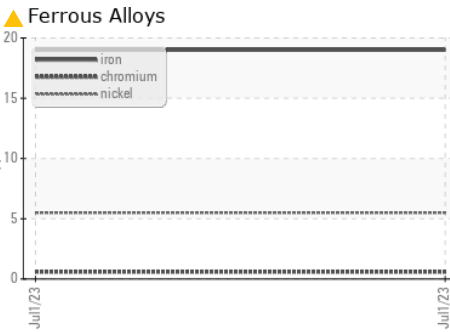
# OIL ANALYSIS REPORT



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	12.00	10.6	---

## GRAPHS



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : PCA0097572 **Received** : 24 Jul 2023  
**Lab Number** : 05905119 **Diagnosed** : 26 Jul 2023  
**Unique Number** : 10566475 **Diagnostician** : Don Baldrige  
**Test Package** : FLEET

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)

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