



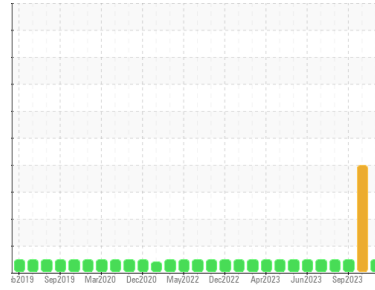
# OIL ANALYSIS REPORT

Sample Rating Trend

**NORMAL**



Machine Id  
**426081-402330**  
 Component  
**Diesel Engine**  
 Fluid  
**PETRO CANADA DURON SHP 15W40 (--- GAL)**



## DIAGNOSIS

### Recommendation

No corrective action is recommended at this time. Resample at the next service interval to monitor.

### Wear

All component wear rates are normal.

### Contamination

Fuel content negligible. 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 suitable for further service.

## SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		<b>GFL0099894</b>	GFL0095141	GFL0090680
Sample Date	Client Info		<b>13 Nov 2023</b>	11 Oct 2023	13 Sep 2023
Machine Age	hrs	Client Info	<b>17605</b>	17443	17267
Oil Age	hrs	Client Info	<b>0</b>	0	600
Oil Changed	Client Info		<b>Not Chngd</b>	Not Chngd	Changed
Sample Status			<b>NORMAL</b>	SEVERE	NORMAL

## CONTAMINATION

	method	limit/base	current	history1	history2
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
Iron	ppm	ASTM D5185m >120	<b>6</b>	8	12
Chromium	ppm	ASTM D5185m >20	<b>&lt;1</b>	1	<1
Nickel	ppm	ASTM D5185m >5	<b>0</b>	<1	2
Titanium	ppm	ASTM D5185m >2	<b>0</b>	<1	0
Silver	ppm	ASTM D5185m >2	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m >20	<b>1</b>	2	3
Lead	ppm	ASTM D5185m >40	<b>0</b>	<1	2
Copper	ppm	ASTM D5185m >330	<b>&lt;1</b>	4	<1
Tin	ppm	ASTM D5185m >15	<b>&lt;1</b>	<1	<1
Vanadium	ppm	ASTM D5185m	<b>&lt;1</b>	<1	<1
Cadmium	ppm	ASTM D5185m	<b>0</b>	0	<1

## ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m 0	<b>2</b>	6	5
Barium	ppm	ASTM D5185m 0	<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m 60	<b>60</b>	54	64
Manganese	ppm	ASTM D5185m 0	<b>&lt;1</b>	<1	<1
Magnesium	ppm	ASTM D5185m 1010	<b>1000</b>	711	1047
Calcium	ppm	ASTM D5185m 1070	<b>1062</b>	775	1158
Phosphorus	ppm	ASTM D5185m 1150	<b>1047</b>	777	1083
Zinc	ppm	ASTM D5185m 1270	<b>1286</b>	897	1391
Sulfur	ppm	ASTM D5185m 2060	<b>3005</b>	2273	3177

## CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >25	<b>3</b>	8	4
Sodium	ppm	ASTM D5185m	<b>3</b>	▲ 168	7
Potassium	ppm	ASTM D5185m >20	<b>&lt;1</b>	<1	1
Fuel	%	ASTM D3524 >3.0	<b>0.7</b>	◆ 24.0	<1.0

## INFRA-RED

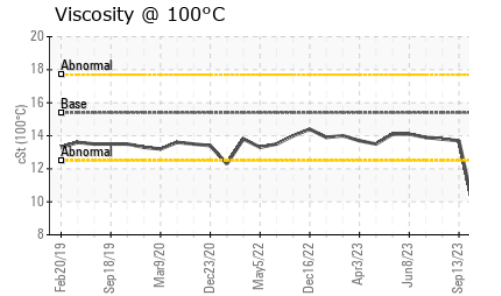
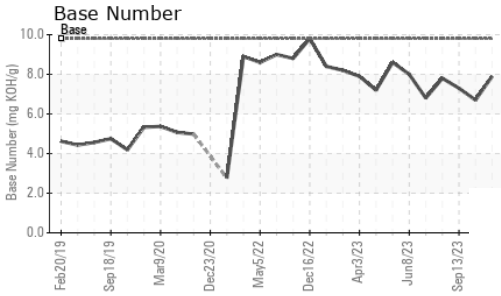
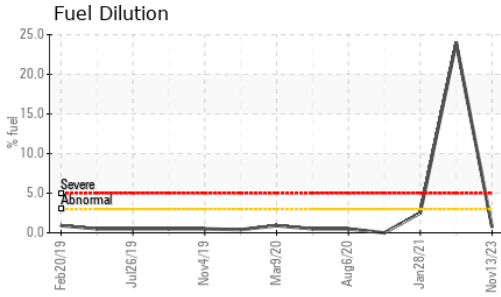
	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844 >4	<b>0.3</b>	0.4	0.6
Nitration	Abs/cm	*ASTM D7624 >20	<b>7.2</b>	8.0	8.0
Sulfation	Abs/.1mm	*ASTM D7415 >30	<b>19.6</b>	20.0	20.2

## FLUID DEGRADATION

	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414 >25	<b>15.7</b>	19.2	16.2
Base Number (BN)	mg KOH/g	ASTM D2896 9.8	<b>7.9</b>	6.7	7.3



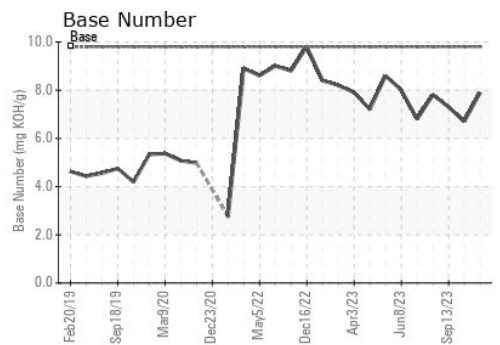
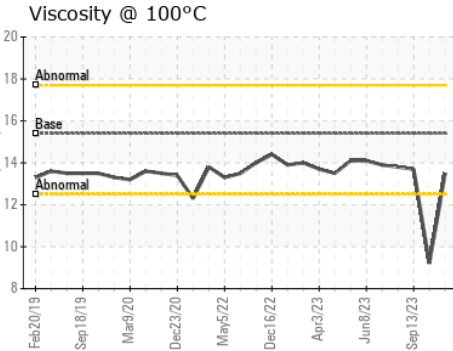
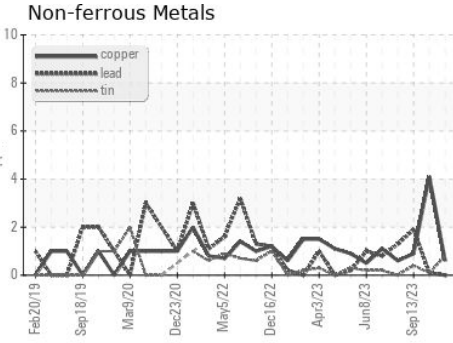
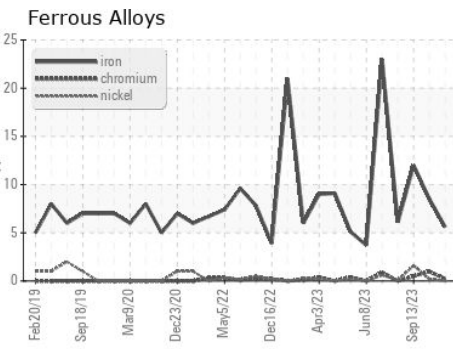
# OIL ANALYSIS REPORT



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

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.4	13.5	9.21

## GRAPHS



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : GFL0099894 **Received** : 20 Nov 2023  
**Lab Number** : 06011945 **Diagnosed** : 21 Nov 2023  
**Unique Number** : 10751089 **Diagnostician** : Wes Davis  
**Test Package** : FLEET ( Additional Tests: PercentFuel )

**GFL Environmental - 836 - Kansas City Hauling**  
 7801 East Truman Road  
 Kansas City, MO  
 US 64126  
 Contact: Robert Hart  
 rhart@gflenv.com  
 T: (580)461-1509  
 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)