



# OIL ANALYSIS REPORT

Sample Rating Trend

**NORMAL**

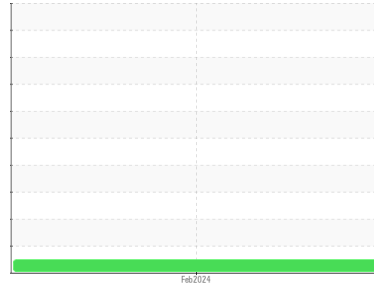


Area  
**(TK421NZJ)**

Machine Id  
**228136**

Component  
**Diesel Engine**

Fluid  
**PETRO CANADA DURON SHP 15W40 (--- GAL)**



## DIAGNOSIS

### Recommendation

Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor.

### Wear

All component wear rates are normal.

### 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>GFL0093015</b>	---	---
Sample Date	Client Info		<b>12 Feb 2024</b>	---	---
Machine Age	mls	Client Info	<b>107115</b>	---	---
Oil Age	mls	Client Info	<b>0</b>	---	---
Oil Changed	Client Info		<b>Changed</b>	---	---
Sample Status			<b>NORMAL</b>	---	---

## CONTAMINATION

	method	limit/base	current	history1	history2
Fuel	WC Method	>5	<b>&lt;1.0</b>	---	---
Water	WC Method	>0.2	<b>NEG</b>	---	---
Glycol	WC Method		<b>NEG</b>	---	---

## WEAR METALS

	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m >100	<b>47</b>	---	---
Chromium	ppm	ASTM D5185m >20	<b>&lt;1</b>	---	---
Nickel	ppm	ASTM D5185m >2	<b>&lt;1</b>	---	---
Titanium	ppm	ASTM D5185m >2	<b>&lt;1</b>	---	---
Silver	ppm	ASTM D5185m >2	<b>0</b>	---	---
Aluminum	ppm	ASTM D5185m >25	<b>10</b>	---	---
Lead	ppm	ASTM D5185m >40	<b>4</b>	---	---
Copper	ppm	ASTM D5185m >330	<b>2</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 0	<b>23</b>	---	---
Barium	ppm	ASTM D5185m 0	<b>&lt;1</b>	---	---
Molybdenum	ppm	ASTM D5185m 60	<b>30</b>	---	---
Manganese	ppm	ASTM D5185m 0	<b>&lt;1</b>	---	---
Magnesium	ppm	ASTM D5185m 1010	<b>82</b>	---	---
Calcium	ppm	ASTM D5185m 1070	<b>2249</b>	---	---
Phosphorus	ppm	ASTM D5185m 1150	<b>880</b>	---	---
Zinc	ppm	ASTM D5185m 1270	<b>1120</b>	---	---
Sulfur	ppm	ASTM D5185m 2060	<b>3488</b>	---	---

## CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >25	<b>5</b>	---	---
Sodium	ppm	ASTM D5185m	<b>2</b>	---	---
Potassium	ppm	ASTM D5185m >20	<b>5</b>	---	---

## INFRA-RED

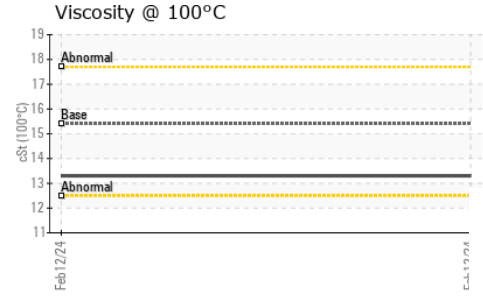
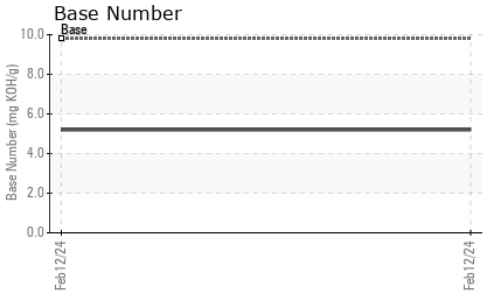
	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844 >3	<b>0.3</b>	---	---
Nitration	Abs/cm	*ASTM D7624 >20	<b>8.9</b>	---	---
Sulfation	Abs/.1mm	*ASTM D7415 >30	<b>19.8</b>	---	---

## FLUID DEGRADATION

	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414 >25	<b>13.9</b>	---	---
Base Number (BN)	mg KOH/g	ASTM D2896 9.8	<b>5.2</b>	---	---



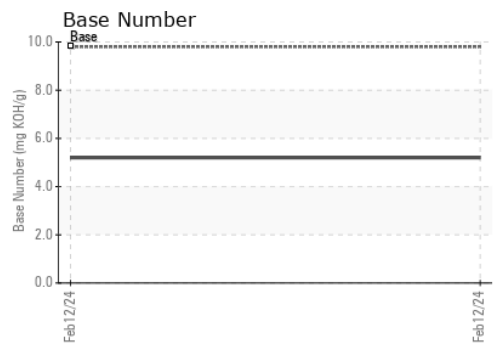
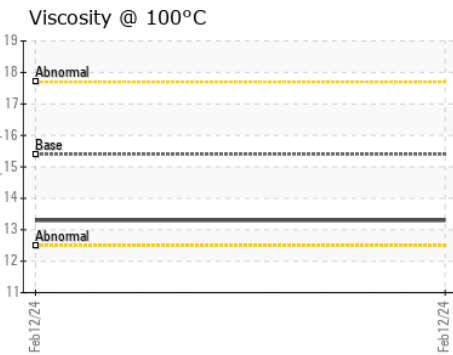
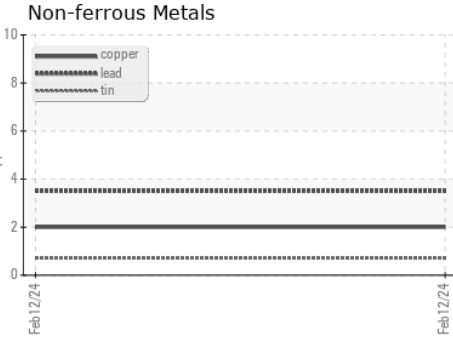
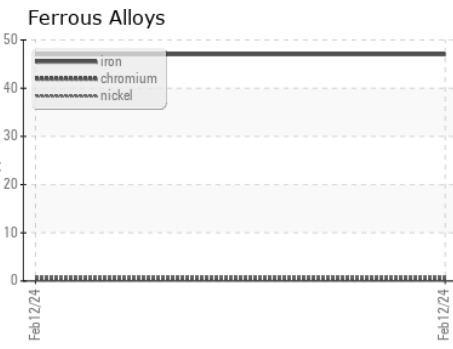
# OIL ANALYSIS REPORT



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	15.4	<b>13.3</b>	---	---

## GRAPHS



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : GFL0093015      **Received** : 16 Feb 2024  
**Lab Number** : 06091505      **Tested** : 17 Feb 2024  
**Unique Number** : 10884358      **Diagnosed** : 19 Feb 2024 - Angela Borella  
**Test Package** : FLEET

**GFL Environmental - 421 - Huntington Road Hauling**  
 3204 Lower Huntington Rd  
 FORT WAYNE, IN  
 US 46809  
 Contact: MICHAEL MUGG  
 MMUGG@GFLENV.COM

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