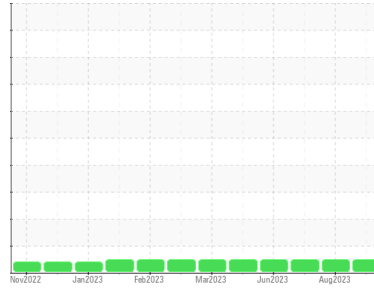




# OIL ANALYSIS REPORT

Sample Rating Trend

**NORMAL**



Machine Id  
**413008**  
 Component  
**Bottom Diesel Engine**  
 Fluid  
**PETRO CANADA DURON SHP 15W40 (11 GAL)**

## DIAGNOSIS

### Recommendation

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 suitable for further service.

## SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		<b>GFL0090432</b>	GFL0090428	GFL0086284
Sample Date	Client Info		<b>21 Aug 2023</b>	04 Aug 2023	03 Jul 2023
Machine Age	hrs	Client Info	<b>2212</b>	2080	1783
Oil Age	hrs	Client Info	<b>132</b>	1130	833
Oil Changed	Client Info		<b>Not Changed</b>	Changed	Not Changed
Sample Status			<b>NORMAL</b>	NORMAL	NORMAL

## CONTAMINATION

	method	limit/base	current	history1	history2
Fuel	WC Method	>3.0	<b>&lt;1.0</b>	<1.0	<1.0

## WEAR METALS

	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m >120	<b>5</b>	14	6
Chromium	ppm	ASTM D5185m >20	<b>0</b>	<1	<1
Nickel	ppm	ASTM D5185m >5	<b>0</b>	1	0
Titanium	ppm	ASTM D5185m >2	<b>&lt;1</b>	<1	0
Silver	ppm	ASTM D5185m >2	<b>0</b>	0	<1
Aluminum	ppm	ASTM D5185m >20	<b>3</b>	5	2
Lead	ppm	ASTM D5185m >40	<b>0</b>	<1	0
Copper	ppm	ASTM D5185m >330	<b>2</b>	43	28
Tin	ppm	ASTM D5185m >15	<b>&lt;1</b>	1	0
Vanadium	ppm	ASTM D5185m	<b>0</b>	<1	0
Cadmium	ppm	ASTM D5185m	<b>0</b>	0	0

## ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m 0	<b>18</b>	0	1
Barium	ppm	ASTM D5185m 0	<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m 60	<b>80</b>	62	57
Manganese	ppm	ASTM D5185m 0	<b>&lt;1</b>	<1	0
Magnesium	ppm	ASTM D5185m 1010	<b>959</b>	1042	940
Calcium	ppm	ASTM D5185m 1070	<b>1142</b>	1114	982
Phosphorus	ppm	ASTM D5185m 1150	<b>1090</b>	991	975
Zinc	ppm	ASTM D5185m 1270	<b>1342</b>	1330	1232
Sulfur	ppm	ASTM D5185m 2060	<b>3940</b>	3119	3310

## CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >25	<b>4</b>	5	2
Sodium	ppm	ASTM D5185m	<b>25</b>	3	2
Potassium	ppm	ASTM D5185m >20	<b>41</b>	13	2
Glycol	%	*ASTM D2982	<b>NEG</b>	NEG	NEG

## INFRA-RED

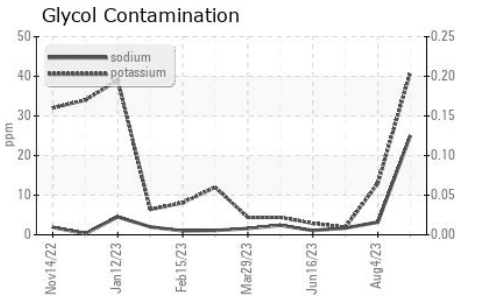
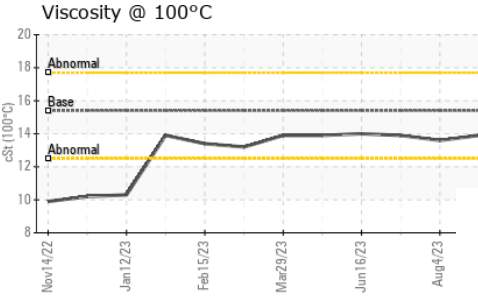
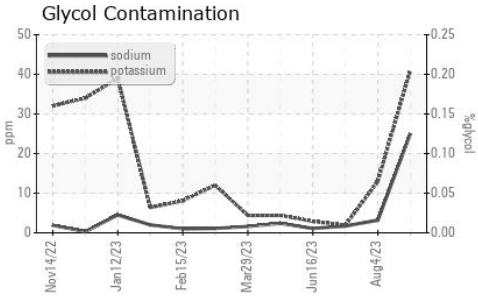
	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844 >4	<b>0.1</b>	0.4	0.2
Nitration	Abs/cm	*ASTM D7624 >20	<b>4.7</b>	8.2	6.7
Sulfation	Abs/.1mm	*ASTM D7415 >30	<b>17.0</b>	19.5	19.6

## FLUID DEGRADATION

	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414 >25	<b>12.9</b>	15.9	15.9
Base Number (BN)	mg KOH/g	ASTM D2896 9.8	<b>9.8</b>	6.8	8.2



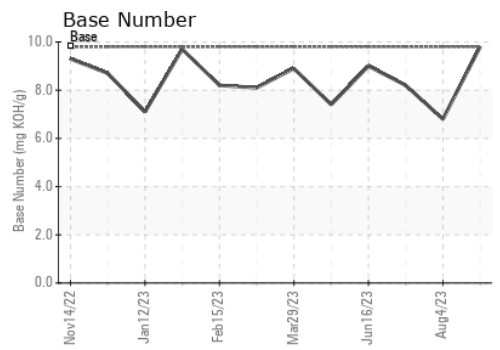
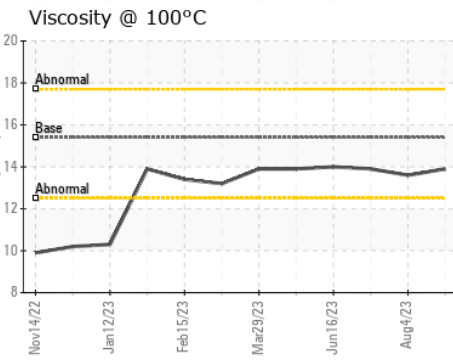
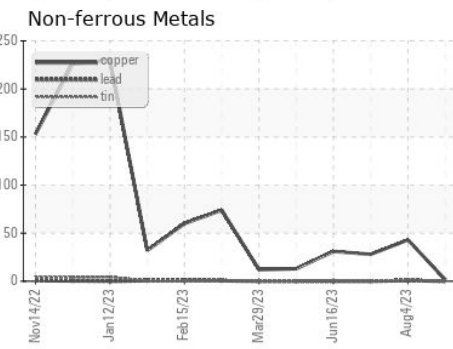
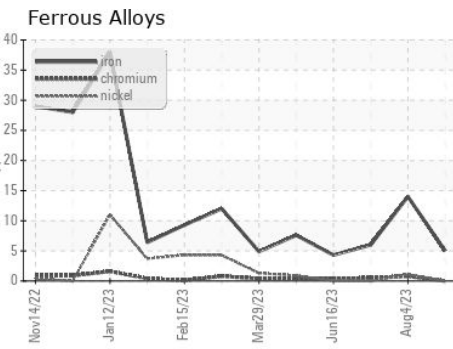
# OIL ANALYSIS REPORT



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	<b>13.9</b>	13.6	13.9

## GRAPHS



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : GFL0090432 **Received** : 25 Aug 2023  
**Lab Number** : 05934790 **Diagnosed** : 29 Aug 2023  
**Unique Number** : 10620061 **Diagnostician** : Jonathan Hester  
**Test Package** : FLEET ( Additional Tests: Glycol )

GFL Environmental - 868 - Childersburg Fines Hauling (Alpine)  
 13737 Plant Rd  
 Childersburg, AL  
 US 35044  
 Contact: JONATHAN WILLIAMS  
 jonathan.williams@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.

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

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F: