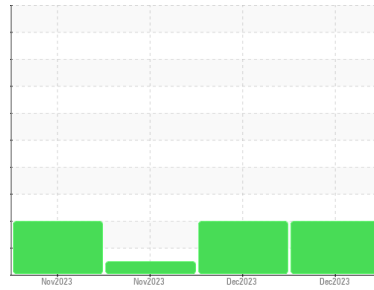




# OIL ANALYSIS REPORT

Sample Rating Trend



**DIRT**



Machine Id  
**814040**  
 Component  
**Diesel Engine**  
 Fluid  
**PETRO CANADA DURON SHP 15W40 (30 LTR)**

## 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

Elemental level of silicon (Si) above normal indicating ingress of seal material.

### ▲ Fluid Condition

The oil viscosity is lower than normal. The BN result indicates that there is suitable alkalinity remaining in the oil. Confirm oil type.

## SAMPLE INFORMATION

method	limit/base	current	history1	history2
Sample Number	Client Info	<b>GFL0105777</b>	GFL0105617	GFL0089129
Sample Date	Client Info	<b>18 Dec 2023</b>	12 Dec 2023	24 Nov 2023
Machine Age	hrs	<b>581</b>	4691	377
Oil Age	hrs	<b>0</b>	0	377
Oil Changed	Client Info	<b>Changed</b>	Not Changd	Changed
Sample Status		<b>ABNORMAL</b>	ABNORMAL	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>31</b>	27	20
Chromium	ppm	ASTM D5185m	>20	<b>&lt;1</b>	1	1
Nickel	ppm	ASTM D5185m	>5	<b>1</b>	1	1
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>	4	6
Lead	ppm	ASTM D5185m	>40	<b>0</b>	2	<1
Copper	ppm	ASTM D5185m	>330	<b>244</b>	140	<1
Tin	ppm	ASTM D5185m	>15	<b>1</b>	<1	<1
Vanadium	ppm	ASTM D5185m		<b>0</b>	<1	<1
Cadmium	ppm	ASTM D5185m		<b>0</b>	0	0

## ADDITIVES

method	limit/base	current	history1	history2		
Boron	ppm	ASTM D5185m	0	<b>240</b>	156	3
Barium	ppm	ASTM D5185m	0	<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m	60	<b>107</b>	89	52
Manganese	ppm	ASTM D5185m	0	<b>3</b>	2	<1
Magnesium	ppm	ASTM D5185m	1010	<b>688</b>	729	870
Calcium	ppm	ASTM D5185m	1070	<b>1269</b>	1221	1003
Phosphorus	ppm	ASTM D5185m	1150	<b>644</b>	791	1059
Zinc	ppm	ASTM D5185m	1270	<b>854</b>	984	1207
Sulfur	ppm	ASTM D5185m	2060	<b>2275</b>	1969	3041

## CONTAMINANTS

method	limit/base	current	history1	history2		
Silicon	ppm	ASTM D5185m	>25	<b>▲ 61</b>	▲ 42	8
Sodium	ppm	ASTM D5185m		<b>0</b>	4	4
Potassium	ppm	ASTM D5185m	>20	<b>4</b>	2	6
Fuel	%	ASTM D3524	>3.0	<b>&lt;1.0</b>	0.7	<1.0

## INFRA-RED

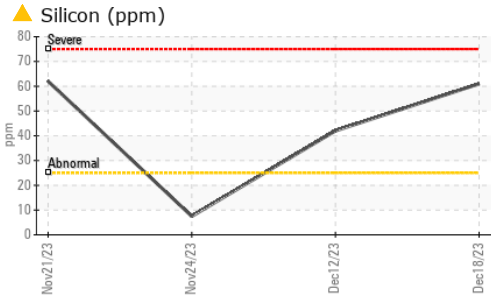
method	limit/base	current	history1	history2		
Soot %	%	*ASTM D7844	>4	<b>0.3</b>	1.2	0.3
Nitration	Abs/cm	*ASTM D7624	>20	<b>8.9</b>	9.3	7.0
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>23.9</b>	24.1	18.8

## FLUID DEGRADATION

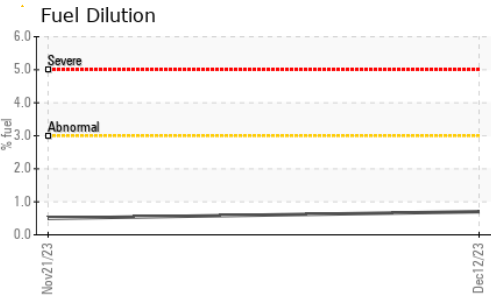
method	limit/base	current	history1	history2		
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>21.1</b>	19.2	14.6
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	<b>8.0</b>	9.1	8.7



# OIL ANALYSIS REPORT

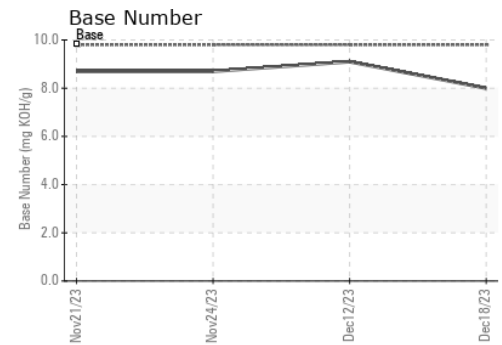
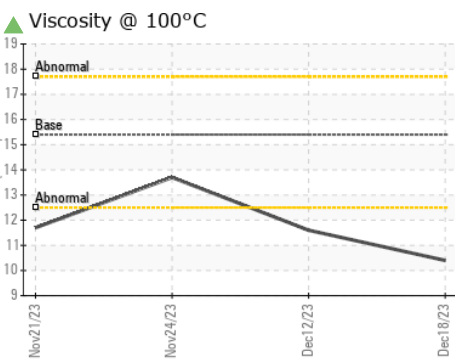
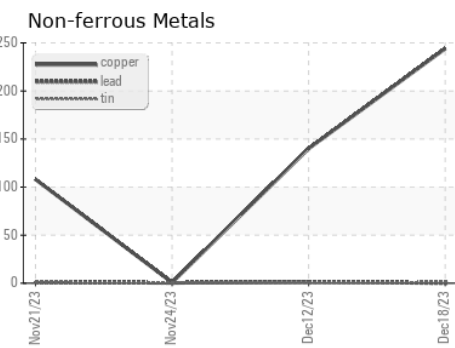
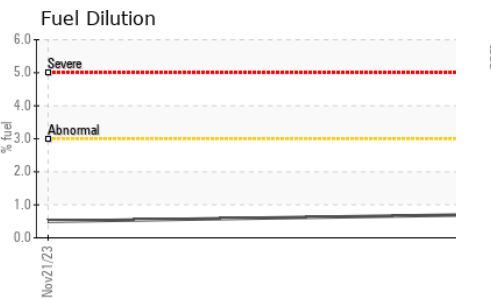
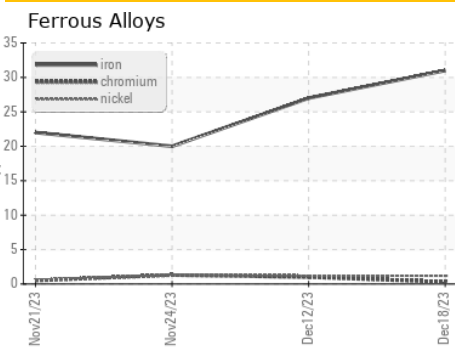
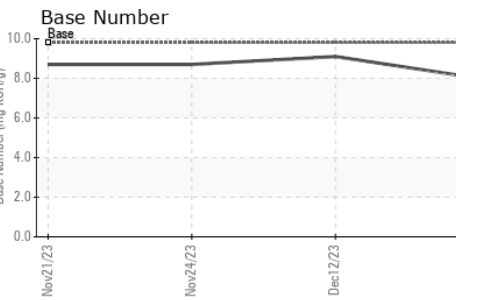


VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance	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	▲ 10.4	▲ 11.6

## GRAPHS



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : GFL0105777 **Received** : 20 Dec 2023  
**Lab Number** : 06040218 **Diagnosed** : 22 Dec 2023  
**Unique Number** : 10795447 **Diagnostician** : Jonathan Hester  
**Test Package** : FLEET ( Additional Tests: FuelDilution, PercentFuel )

**GFL Environmental - 415 - Michigan East**  
 6200 Elmridge  
 Sterling Heights, MI  
 US 48313  
 Contact: Frank Wolak  
 fwolak@gflenv.com  
 T: (586)825-9514  
 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)