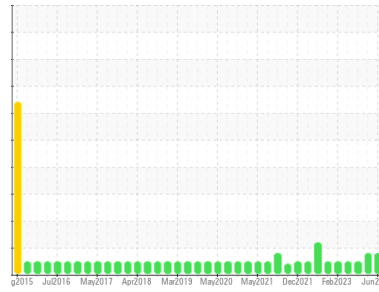




# OIL ANALYSIS REPORT

Sample Rating Trend



**SOOT**



Machine Id  
**11217**  
 Component  
**Diesel Engine**  
 Fluid

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

## DIAGNOSIS

### Recommendation

We recommend you service the filters on this component. Resample at the next service interval to monitor.

### Wear

All component wear rates are normal.

### Contamination

There is an abnormal amount of solids and carbon present 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>GFL0123405</b>	GFL0082431	GFL0082449
Sample Date	Client Info			<b>18 Jun 2024</b>	05 Jan 2024	07 Sep 2023
Machine Age	hrs	Client Info		<b>69881</b>	69881	17468
Oil Age	hrs	Client Info		<b>69881</b>	69881	615
Oil Changed		Client Info		<b>N/A</b>	Changed	Changed
Sample Status				<b>ABNORMAL</b>	ATTENTION	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	>100	<b>61</b>	56	7
Chromium	ppm	ASTM D5185m	>20	<b>&lt;1</b>	<1	<1
Nickel	ppm	ASTM D5185m	>4	<b>0</b>	1	<1
Titanium	ppm	ASTM D5185m		<b>&lt;1</b>	<1	<1
Silver	ppm	ASTM D5185m	>3	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m	>20	<b>6</b>	2	<1
Lead	ppm	ASTM D5185m	>40	<b>2</b>	1	1
Copper	ppm	ASTM D5185m	>330	<b>2</b>	1	<1
Tin	ppm	ASTM D5185m	>15	<b>0</b>	1	2
Vanadium	ppm	ASTM D5185m		<b>&lt;1</b>	0	0
Cadmium	ppm	ASTM D5185m		<b>0</b>	<1	<1

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	0	<b>2</b>	3	0
Barium	ppm	ASTM D5185m	0	<b>0</b>	0	44
Molybdenum	ppm	ASTM D5185m	60	<b>62</b>	58	57
Manganese	ppm	ASTM D5185m	0	<b>1</b>	2	1
Magnesium	ppm	ASTM D5185m	1010	<b>1056</b>	935	909
Calcium	ppm	ASTM D5185m	1070	<b>1309</b>	1115	993
Phosphorus	ppm	ASTM D5185m	1150	<b>1172</b>	934	954
Zinc	ppm	ASTM D5185m	1270	<b>1473</b>	1221	1165
Sulfur	ppm	ASTM D5185m	2060	<b>3882</b>	3318	3278

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>25	<b>4</b>	4	3
Sodium	ppm	ASTM D5185m		<b>3</b>	0	2
Potassium	ppm	ASTM D5185m	>20	<b>2</b>	2	2
Fuel	%	ASTM D3524	>5	<b>&lt;1.0</b>	<1.0	<1.0

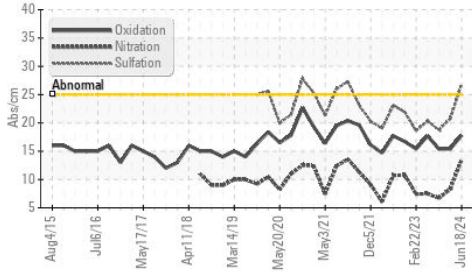
INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>3	<b>▲ 3.9</b>	1.3	0.4
Nitration	Abs/cm	*ASTM D7624	>20	<b>13.5</b>	8.3	6.7
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>26.8</b>	20.7	18.8

FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>17.8</b>	15.4	15.4
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	<b>8.9</b>	9.6	8.2

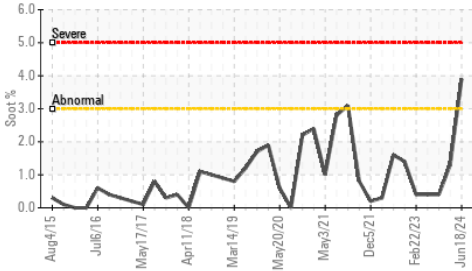


# OIL ANALYSIS REPORT

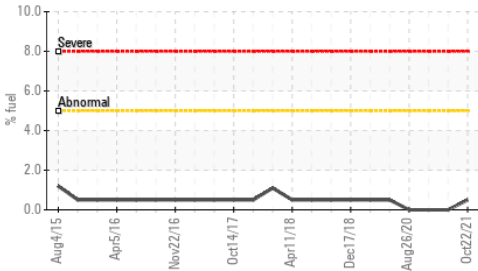
▲ FT-IR (Direct Trend)



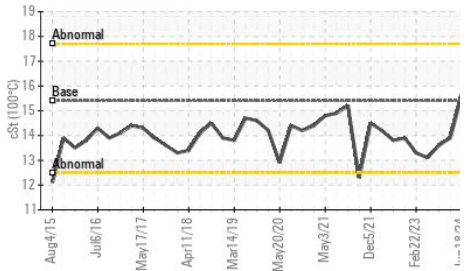
▲ Soot %



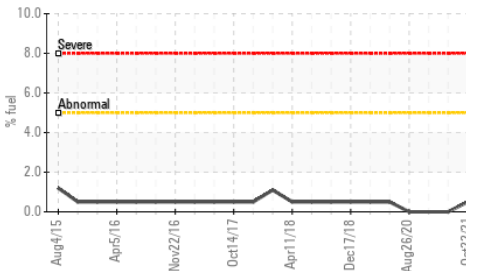
Fuel Dilution



Viscosity @ 100°C



Fuel Dilution

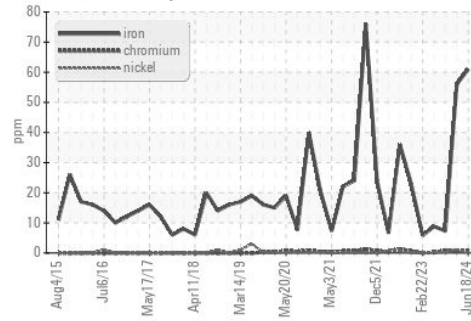


VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance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

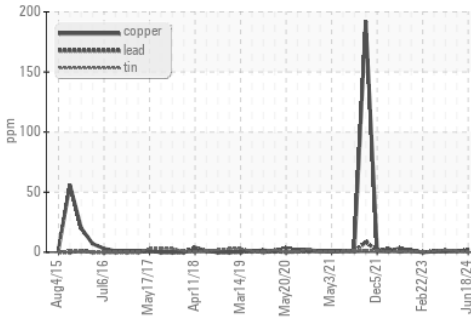
FLUID PROPERTIES	method	limit/base	current	history1	history2	
Visc @ 100°C	cSt	ASTM D445	15.4	<b>15.6</b>	13.9	13.6

## GRAPHS

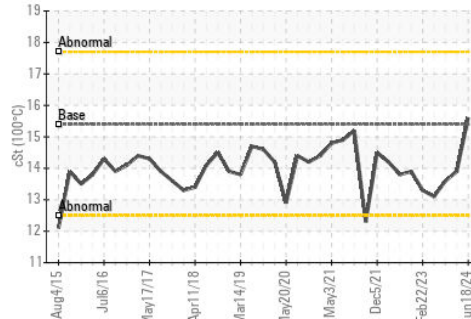
Ferrous Alloys



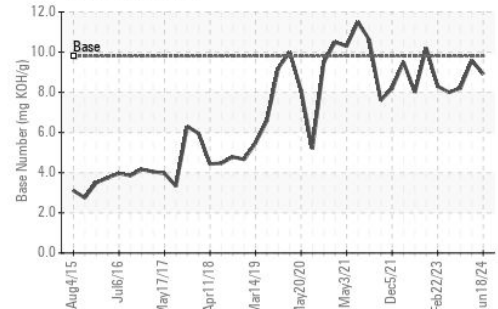
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : GFL0123405      **Received** : 20 Jun 2024  
**Lab Number** : **06215682**      **Tested** : 21 Jun 2024  
**Unique Number** : 11088546      **Diagnosed** : 21 Jun 2024 - Jonathan Hester  
**Test Package** : FLEET ( Additional Tests: FuelDilution, PercentFuel )

**GFL Environmental - 007 - Brunswick**  
 2809 Galloway Road  
 Bolivia, NC  
 US 28422  
 Contact: DONALD CRAVEN  
 dcraven@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)

T: (910)253-4179