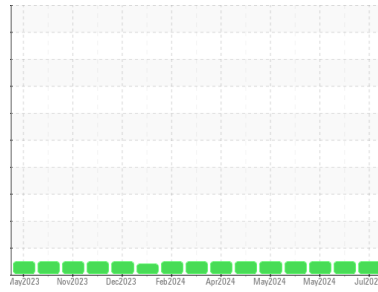




# OIL ANALYSIS REPORT

## Sample Rating Trend



**NORMAL**



Machine Id

**913151**

Component

**Diesel Engine**

Fluid

**PETRO CANADA DURON SHP 15W40 (--- 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>GFL0093482</b>	GFL0093455	GFL0093444	
Sample Date	Client Info	<b>01 Jul 2024</b>	18 Jun 2024	31 May 2024	
Machine Age	hrs	Client Info	<b>3521</b>	3409	3302
Oil Age	hrs	Client Info	<b>400</b>	288	181
Oil Changed	Client Info	<b>Not Changed</b>	Not Changed	Not Changed	
Sample Status		<b>NORMAL</b>	NORMAL	NORMAL	

## CONTAMINATION

method	limit/base	current	history1	history2
Fuel	WC Method >5	<b>&lt;1.0</b>	<1.0	<1.0
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 >110	<b>5</b>	3	3
Chromium	ppm ASTM D5185m >4	<b>&lt;1</b>	0	<1
Nickel	ppm ASTM D5185m >2	<b>&lt;1</b>	0	0
Titanium	ppm ASTM D5185m	<b>8</b>	7	8
Silver	ppm ASTM D5185m >2	<b>&lt;1</b>	<1	0
Aluminum	ppm ASTM D5185m >25	<b>3</b>	2	4
Lead	ppm ASTM D5185m >45	<b>0</b>	0	0
Copper	ppm ASTM D5185m >85	<b>&lt;1</b>	0	<1
Tin	ppm ASTM D5185m >4	<b>&lt;1</b>	0	<1
Vanadium	ppm ASTM D5185m	<b>&lt;1</b>	0	0
Cadmium	ppm ASTM D5185m	<b>&lt;1</b>	0	0

## ADDITIVES

method	limit/base	current	history1	history2
Boron	ppm ASTM D5185m 0	<b>4</b>	8	6
Barium	ppm ASTM D5185m 0	<b>&lt;1</b>	0	1
Molybdenum	ppm ASTM D5185m 60	<b>59</b>	53	58
Manganese	ppm ASTM D5185m 0	<b>&lt;1</b>	<1	0
Magnesium	ppm ASTM D5185m 1010	<b>919</b>	945	905
Calcium	ppm ASTM D5185m 1070	<b>1144</b>	1136	1144
Phosphorus	ppm ASTM D5185m 1150	<b>1014</b>	1095	1004
Zinc	ppm ASTM D5185m 1270	<b>1237</b>	1300	1235
Sulfur	ppm ASTM D5185m 2060	<b>2778</b>	3779	3305

## CONTAMINANTS

method	limit/base	current	history1	history2
Silicon	ppm ASTM D5185m >30	<b>5</b>	5	4
Sodium	ppm ASTM D5185m	<b>0</b>	1	0
Potassium	ppm ASTM D5185m >20	<b>4</b>	4	3

## INFRA-RED

method	limit/base	current	history1	history2
Soot %	% *ASTM D7844 >3	<b>0.2</b>	0.2	0.6
Nitration	Abs/cm *ASTM D7624 >20	<b>8.1</b>	7.3	6.9
Sulfation	Abs/.1mm *ASTM D7415 >30	<b>18.8</b>	18.4	19.0

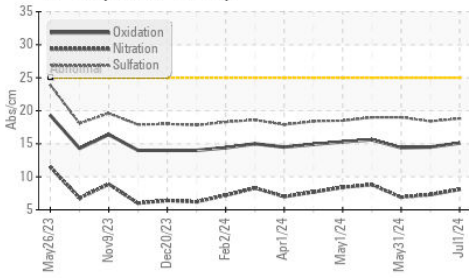
## FLUID DEGRADATION

method	limit/base	current	history1	history2
Oxidation	Abs/.1mm *ASTM D7414 >25	<b>15.1</b>	14.5	14.4
Base Number (BN)	mg KOH/g ASTM D2896 9.8	<b>8.2</b>	8.8	8.7

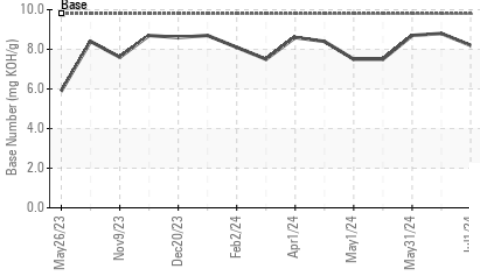


# OIL ANALYSIS REPORT

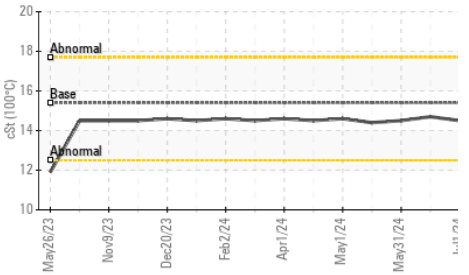
FT-IR (Direct Trend)



Base Number



Viscosity @ 100°C

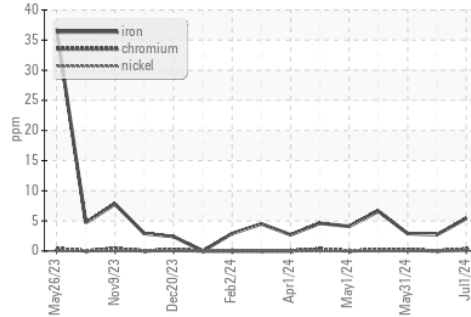


VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	LIGHT
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance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

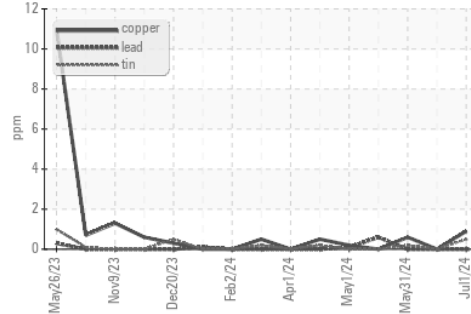
FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.4	14.5	14.7

## GRAPHS

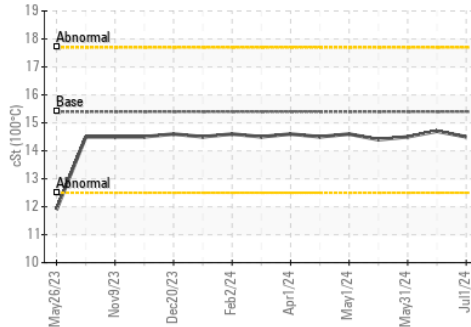
Ferrous Alloys



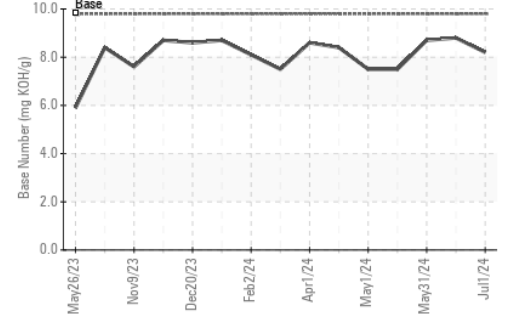
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
 Sample No. : GFL0093482  
 Lab Number : 06226054  
 Unique Number : 11109547  
 Test Package : FLEET

Received : 02 Jul 2024  
 Tested : 03 Jul 2024  
 Diagnosed : 03 Jul 2024 - Wes Davis

GFL Environmental - 891 - Oklahoma City Hauling  
 1001 South Rockwell  
 Oklahoma City, OK  
 US 73128  
 Contact: Andy Smith  
 andrew.smith@gflenv.com  
 T: (405)306-1651  
 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)