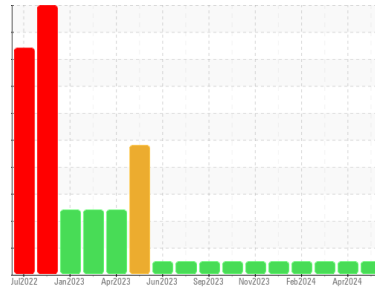




# OIL ANALYSIS REPORT

Sample Rating Trend



**NORMAL**



Machine Id  
**728044-362000**

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>GFL0104832</b>	GFL0104817	GFL0104894	
Sample Date	Client Info	<b>28 May 2024</b>	22 Apr 2024	04 Mar 2024	
Machine Age	mls	Client Info	<b>0</b>	238082	236192
Oil Age	mls	Client Info	<b>0</b>	0	0
Oil Changed	Client Info	<b>N/A</b>	Not Changd	Not Changd	
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 >100	<b>20</b>	17	13
Chromium	ppm ASTM D5185m >20	<b>&lt;1</b>	<1	<1
Nickel	ppm ASTM D5185m >4	<b>0</b>	0	<1
Titanium	ppm ASTM D5185m	<b>0</b>	0	0
Silver	ppm ASTM D5185m >3	<b>0</b>	0	0
Aluminum	ppm ASTM D5185m >20	<b>4</b>	4	3
Lead	ppm ASTM D5185m >40	<b>&lt;1</b>	0	0
Copper	ppm ASTM D5185m >330	<b>2</b>	5	2
Tin	ppm ASTM D5185m >15	<b>&lt;1</b>	<1	2
Vanadium	ppm ASTM D5185m	<b>0</b>	0	<1
Cadmium	ppm ASTM D5185m	<b>0</b>	0	0

## ADDITIVES

method	limit/base	current	history1	history2
Boron	ppm ASTM D5185m 0	<b>4</b>	4	2
Barium	ppm ASTM D5185m 0	<b>0</b>	0	0
Molybdenum	ppm ASTM D5185m 60	<b>55</b>	56	56
Manganese	ppm ASTM D5185m 0	<b>&lt;1</b>	1	<1
Magnesium	ppm ASTM D5185m 1010	<b>840</b>	876	896
Calcium	ppm ASTM D5185m 1070	<b>948</b>	1008	1038
Phosphorus	ppm ASTM D5185m 1150	<b>994</b>	1008	939
Zinc	ppm ASTM D5185m 1270	<b>1128</b>	1186	1187
Sulfur	ppm ASTM D5185m 2060	<b>3807</b>	4011	3427

## CONTAMINANTS

method	limit/base	current	history1	history2
Silicon	ppm ASTM D5185m >25	<b>5</b>	5	3
Sodium	ppm ASTM D5185m	<b>42</b>	39	34
Potassium	ppm ASTM D5185m >20	<b>18</b>	14	14

## INFRA-RED

method	limit/base	current	history1	history2
Soot %	% *ASTM D7844 >3	<b>0.5</b>	0.4	0.4
Nitration	Abs/cm *ASTM D7624 >20	<b>8.8</b>	8.3	7.6
Sulfation	Abs/.1mm *ASTM D7415 >30	<b>19.0</b>	18.5	18.6

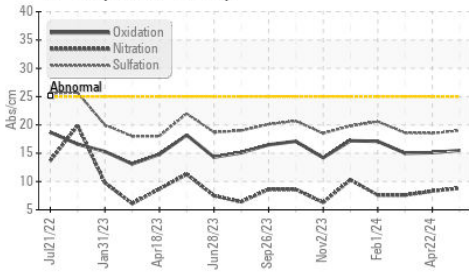
## FLUID DEGRADATION

method	limit/base	current	history1	history2
Oxidation	Abs/.1mm *ASTM D7414 >25	<b>15.5</b>	15.1	15.0
Base Number (BN)	mg KOH/g ASTM D2896 9.8	<b>7.7</b>	7.5	8.7

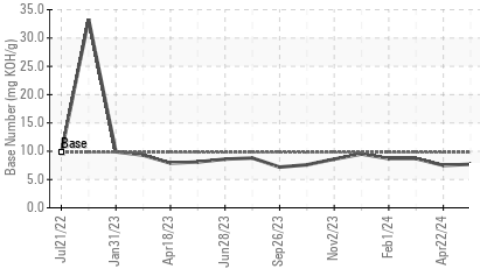


# OIL ANALYSIS REPORT

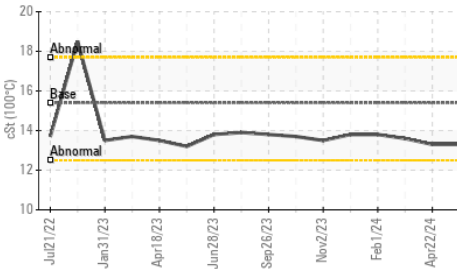
FT-IR (Direct Trend)



Base Number



Viscosity @ 100°C

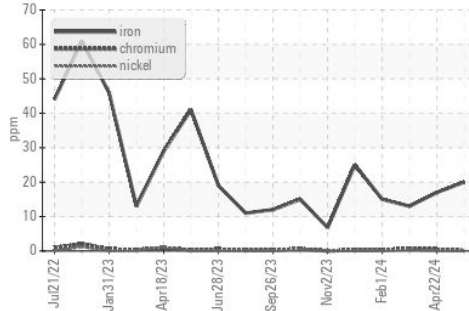


VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance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

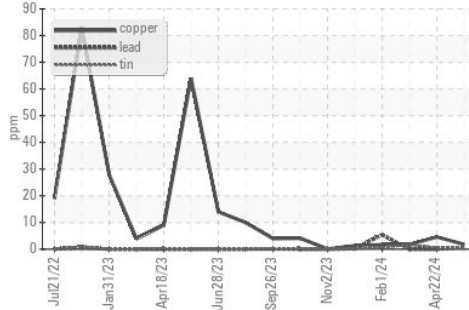
FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.4	13.3	13.6

## GRAPHS

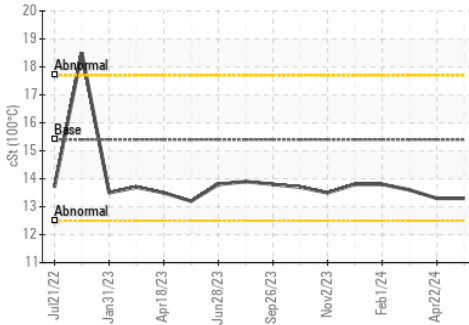
Ferrous Alloys



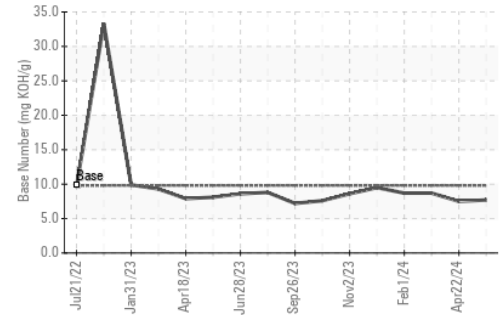
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
 Sample No. : GFL0104832  
 Lab Number : 06193799  
 Unique Number : 11055922  
 Test Package : FLEET

Received : 29 May 2024  
 Tested : 30 May 2024  
 Diagnosed : 31 May 2024 - Angela Borella

GFL Environmental - 820 - Joplin Hauling  
 3700 West 7th Street  
 Joplin, MO  
 US 64801  
 Contact: James Jarrett  
 jjarrett@gflenv.com  
 T: (417)310-2802  
 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)