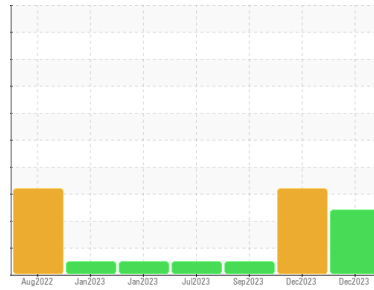




# OIL ANALYSIS REPORT

Sample Rating Trend



**DIRT**



Machine Id  
**425080-43**  
Component  
**Diesel Engine**  
Fluid  
**PETRO CANADA DURON SHP 15W40 (--- GAL)**

## DIAGNOSIS

### ▲ Recommendation

We advise that you check the air filter, air induction system, and any areas where dirt may enter the component. Oil and filter change at the time of sampling has been noted. We recommend an early resample to monitor this condition.

### ▲ Wear

All component wear rates are normal.

### ▲ Contamination

Elemental levels of silicon (Si) and aluminum (Al) indicate alumina-silicate (coarse dirt) ingress.

### Fluid Condition

The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is acceptable for the time in service.

## SAMPLE INFORMATION

method	limit/base	current	history1	history2
Sample Number	Client Info	<b>GFL0100262</b>	GFL0100253	GFL0091218
Sample Date	Client Info	<b>26 Dec 2023</b>	13 Dec 2023	28 Sep 2023
Machine Age	hrs	<b>32312</b>	32312	32292
Oil Age	hrs	<b>600</b>	200	200
Oil Changed	Client Info	<b>Changed</b>	Not Changd	Not Changd
Sample Status		<b>ABNORMAL</b>	ABNORMAL	NORMAL

## CONTAMINATION

method	limit/base	current	history1	history2
Fuel	WC Method >3.0	<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 >120	<b>87</b>	▲ 102	44
Chromium	ppm ASTM D5185m >20	<b>2</b>	2	1
Nickel	ppm ASTM D5185m >5	<b>&lt;1</b>	<1	0
Titanium	ppm ASTM D5185m >2	<b>&lt;1</b>	1	<1
Silver	ppm ASTM D5185m >2	<b>0</b>	0	0
Aluminum	ppm ASTM D5185m >20	▲ <b>10</b>	▲ 9	8
Lead	ppm ASTM D5185m >40	<b>2</b>	1	2
Copper	ppm ASTM D5185m >330	<b>7</b>	10	8
Tin	ppm ASTM D5185m >15	<b>&lt;1</b>	<1	<1
Vanadium	ppm ASTM D5185m	<b>&lt;1</b>	<1	0
Cadmium	ppm ASTM D5185m	<b>0</b>	<1	0

## ADDITIVES

method	limit/base	current	history1	history2
Boron	ppm ASTM D5185m 0	<b>4</b>	3	1
Barium	ppm ASTM D5185m 0	<b>0</b>	0	0
Molybdenum	ppm ASTM D5185m 60	<b>58</b>	64	63
Manganese	ppm ASTM D5185m 0	<b>1</b>	1	<1
Magnesium	ppm ASTM D5185m 1010	<b>930</b>	959	908
Calcium	ppm ASTM D5185m 1070	<b>963</b>	1033	1017
Phosphorus	ppm ASTM D5185m 1150	<b>1043</b>	988	1020
Zinc	ppm ASTM D5185m 1270	<b>1244</b>	1202	1198
Sulfur	ppm ASTM D5185m 2060	<b>3071</b>	3276	3175

## CONTAMINANTS

method	limit/base	current	history1	history2
Silicon	ppm ASTM D5185m >25	▲ <b>28</b>	▲ 30	18
Sodium	ppm ASTM D5185m	<b>3</b>	<1	2
Potassium	ppm ASTM D5185m >20	<b>3</b>	3	2

## INFRA-RED

method	limit/base	current	history1	history2
Soot %	% *ASTM D7844 >4	<b>0.9</b>	0.9	0.8
Nitration	Abs/cm *ASTM D7624 >20	<b>6.5</b>	6.4	6.2
Sulfation	Abs/.1mm *ASTM D7415 >30	<b>19.3</b>	19.2	18.8

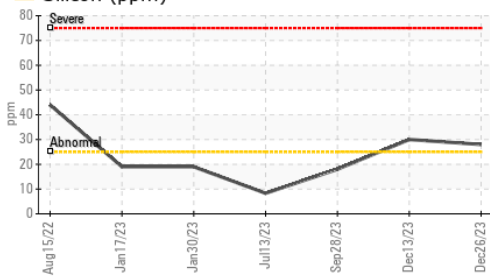
## FLUID DEGRADATION

method	limit/base	current	history1	history2
Oxidation	Abs/.1mm *ASTM D7414 >25	<b>13.7</b>	13.7	13.6
Base Number (BN)	mg KOH/g ASTM D2896 9.8	<b>8.8</b>	8.8	9.0

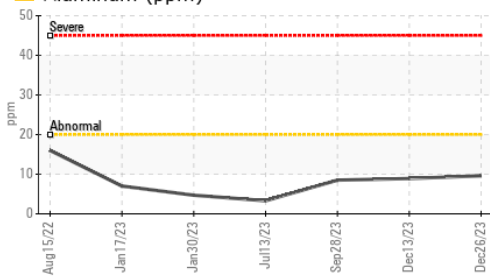


# OIL ANALYSIS REPORT

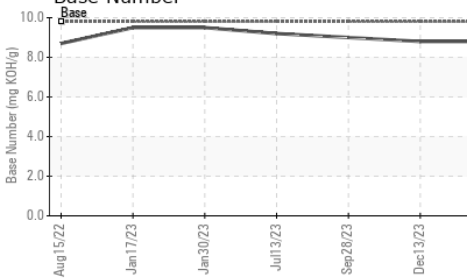
▲ Silicon (ppm)



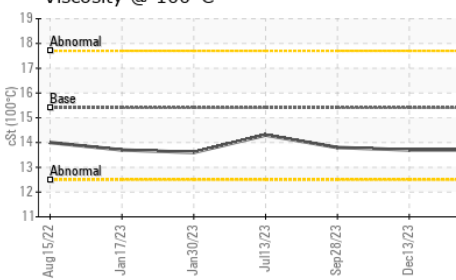
▲ Aluminum (ppm)



Base Number



Viscosity @ 100°C

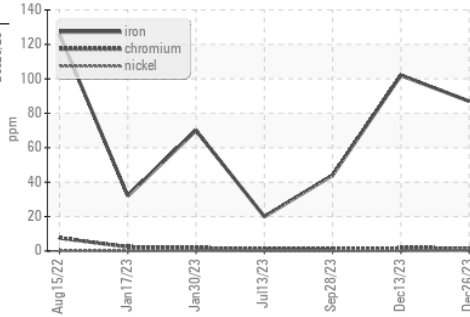


VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance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

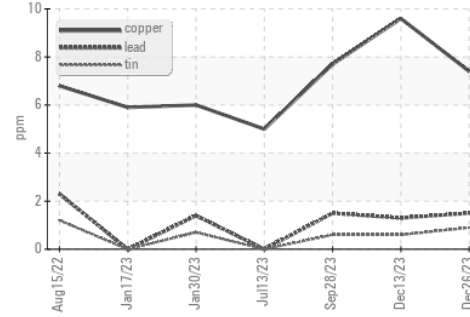
FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.4	13.7	13.8

### GRAPHS

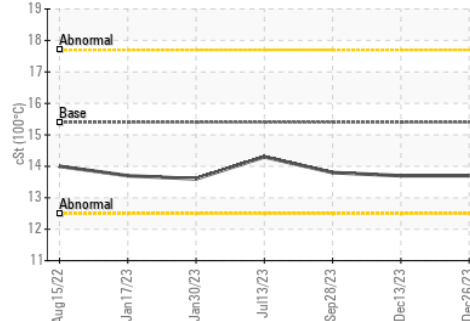
Ferrous Alloys



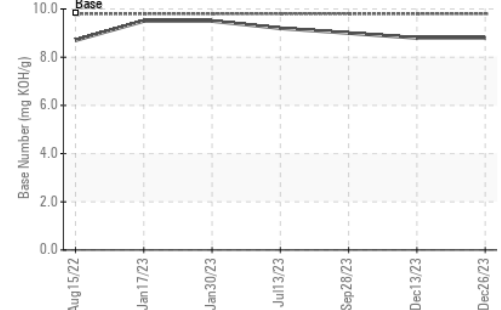
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : GFL0100262 **Received** : 03 Jan 2024  
**Lab Number** : 06049798 **Diagnosed** : 04 Jan 2024  
**Unique Number** : 10815747 **Diagnostician** : Jonathan Hester  
**Test Package** : FLEET

**GFL Environmental - 166 - Phenix City**  
 18 Old Brickyard Rd  
 Phenix City, AL  
 US 36869  
 Contact: DEAN PEACE JR  
 dean.peace@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: