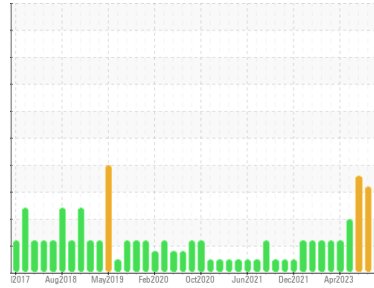




# OIL ANALYSIS REPORT

Sample Rating Trend



GLYCOL



Area  
**(MK2802)**  
Machine Id  
**2422**  
Component  
**Diesel Engine**  
Fluid  
**PETRO CANADA DURON SHP 15W40 (9 GAL)**

## DIAGNOSIS

### Recommendation

We advise that you check for the source of the coolant leak. Check for low coolant level. 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

Sodium and/or potassium levels are high. Light fuel dilution occurring.

### 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>GFL0090132</b>	GFL0075179	GFL0061883
Sample Date	Client Info	<b>15 Feb 2024</b>	24 Nov 2023	12 Sep 2023
Machine Age	hrs	<b>33266</b>	32605	32023
Oil Age	hrs	<b>661</b>	32605	32023
Oil Changed	Client Info	<b>Changed</b>	Changed	Changed
Sample Status		<b>ABNORMAL</b>	ABNORMAL	ABNORMAL

## CONTAMINATION

method	limit/base	current	history1	history2
Water	WC Method >0.2	<b>NEG</b>	NEG	NEG

## WEAR METALS

method	limit/base	current	history1	history2
Iron	ppm ASTM D5185m >120	<b>6</b>	7	12
Chromium	ppm ASTM D5185m >20	<b>0</b>	0	<1
Nickel	ppm ASTM D5185m >5	<b>&lt;1</b>	<1	<1
Titanium	ppm ASTM D5185m >2	<b>&lt;1</b>	0	0
Silver	ppm ASTM D5185m >2	<b>0</b>	0	0
Aluminum	ppm ASTM D5185m >20	<b>1</b>	2	<1
Lead	ppm ASTM D5185m >40	<b>0</b>	<1	<1
Copper	ppm ASTM D5185m >330	<b>1</b>	1	1
Tin	ppm ASTM D5185m >15	<b>&lt;1</b>	<1	<1
Vanadium	ppm ASTM D5185m	<b>0</b>	<1	0
Cadmium	ppm ASTM D5185m	<b>0</b>	0	0

## ADDITIVES

method	limit/base	current	history1	history2
Boron	ppm ASTM D5185m 0	<b>5</b>	6	4
Barium	ppm ASTM D5185m 0	<b>0</b>	0	0
Molybdenum	ppm ASTM D5185m 60	<b>73</b>	72	71
Manganese	ppm ASTM D5185m 0	<b>0</b>	0	<1
Magnesium	ppm ASTM D5185m 1010	<b>870</b>	926	886
Calcium	ppm ASTM D5185m 1070	<b>954</b>	1052	1076
Phosphorus	ppm ASTM D5185m 1150	<b>855</b>	1011	826
Zinc	ppm ASTM D5185m 1270	<b>1144</b>	1227	1128
Sulfur	ppm ASTM D5185m 2060	<b>2833</b>	2980	3275

## CONTAMINANTS

method	limit/base	current	history1	history2
Silicon	ppm ASTM D5185m >25	<b>15</b>	18	14
Sodium	ppm ASTM D5185m	<b>▲ 570</b>	▲ 456	▲ 438
Potassium	ppm ASTM D5185m >20	<b>10</b>	▲ 66	▲ 44
Fuel	% ASTM D3524 >3.0	<b>▲ 3.4</b>	▲ 3.8	▲ 5.5
Glycol	% *ASTM D2982	<b>NEG</b>	NEG	NEG

## INFRA-RED

method	limit/base	current	history1	history2
Soot %	% *ASTM D7844 >4	<b>0.3</b>	0.2	0.4
Nitration	Abs/cm *ASTM D7624 >20	<b>9.6</b>	9.2	10.0
Sulfation	Abs/.1mm *ASTM D7415 >30	<b>18.9</b>	18.7	21.0

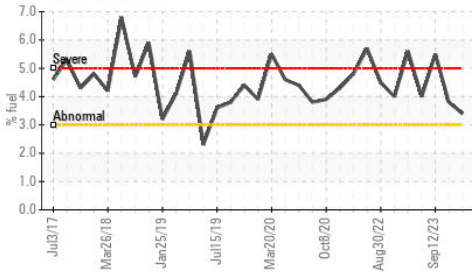
## FLUID DEGRADATION

method	limit/base	current	history1	history2
Oxidation	Abs/.1mm *ASTM D7414 >25	<b>15.0</b>	14.8	16.4
Base Number (BN)	mg KOH/g ASTM D2896 9.8	<b>7.8</b>	8.7	5.4

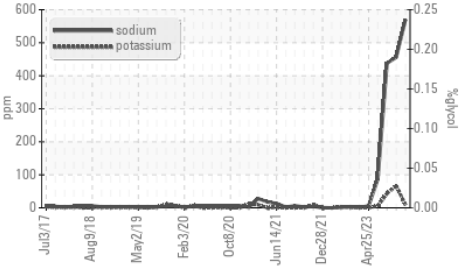


# OIL ANALYSIS REPORT

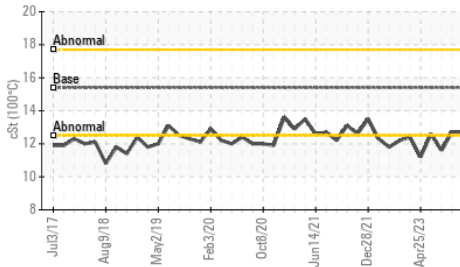
▲ Fuel Dilution



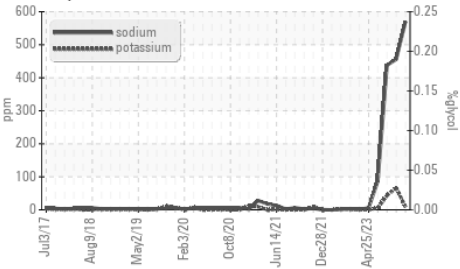
Glycol Contamination



Viscosity @ 100°C



Glycol Contamination

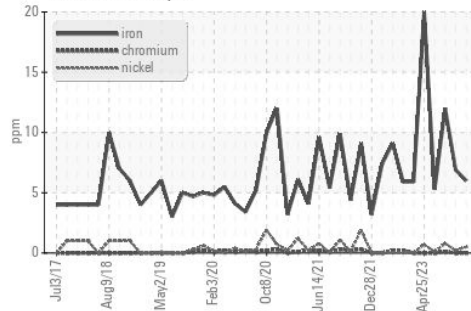


VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance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

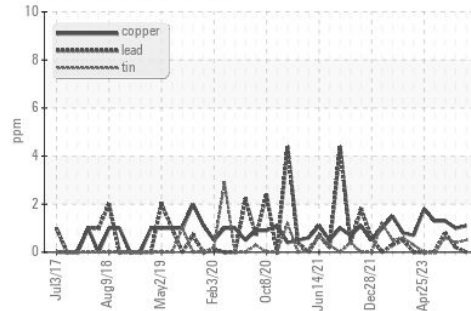
FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.4	12.7	▲ 11.6

## GRAPHS

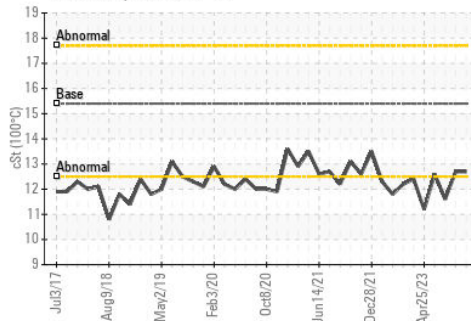
Ferrous Alloys



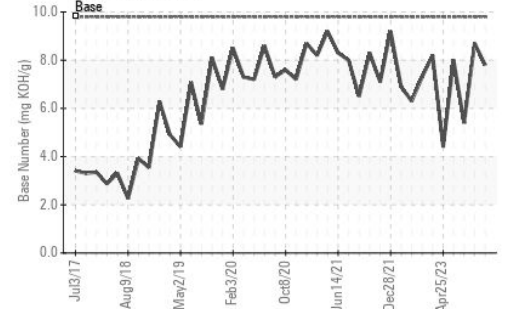
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
 Sample No. : GFL0090132 Received : 16 Feb 2024  
 Lab Number : 06091585 Tested : 20 Feb 2024  
 Unique Number : 10884438 Diagnosed : 20 Feb 2024 - Jonathan Hester

GFL Environmental - 044 - Elizabeth City  
 657 Old US 17  
 Elizabeth City, NC  
 US 27909  
 Contact: TOM BAIRD  
 tom.baIRD@gflenv.com  
 T: (252)562-2645  
 F: (252)264-4411

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)