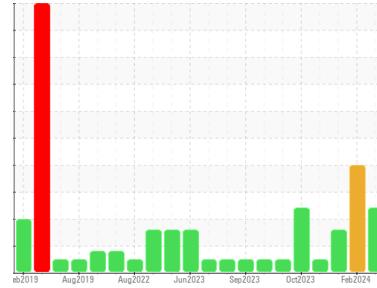




# OIL ANALYSIS REPORT

Sample Rating Trend



GLYCOL



Machine Id  
**929080-205304**

Component  
**Diesel Engine**

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

## DIAGNOSIS

### Recommendation

We advise that you check for possible coolant leak. Check for low coolant level. We recommend an early resample to monitor this condition.

### Wear

All component wear rates are normal.

### Contamination

Sodium and/or potassium levels are high.

### Fluid Condition

The BN result indicates that there is suitable alkalinity remaining in the oil.

## SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		<b>GFL0105210</b>	GFL0105214	GFL0105205
Sample Date	Client Info		<b>13 Feb 2024</b>	02 Feb 2024	09 Jan 2024
Machine Age	hrs	Client Info	<b>12746</b>	12563	12469
Oil Age	hrs	Client Info	<b>150</b>	600	150
Oil Changed	Client Info		<b>Not Changed</b>	Changed	Not Changed
Sample Status			<b>ABNORMAL</b>	ABNORMAL	ABNORMAL

## 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

## WEAR METALS

	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m >100	<b>5</b>	9	5
Chromium	ppm	ASTM D5185m >20	<b>&lt;1</b>	<1	<1
Nickel	ppm	ASTM D5185m >4	<b>0</b>	0	0
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>2</b>	3	1
Lead	ppm	ASTM D5185m >40	<b>1</b>	1	<1
Copper	ppm	ASTM D5185m >330	<b>1</b>	<1	<1
Tin	ppm	ASTM D5185m >15	<b>&lt;1</b>	<1	0
Vanadium	ppm	ASTM D5185m	<b>0</b>	<1	<1
Cadmium	ppm	ASTM D5185m	<b>0</b>	0	0

## ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m 0	<b>3</b>	<1	1
Barium	ppm	ASTM D5185m 0	<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m 60	<b>70</b>	76	70
Manganese	ppm	ASTM D5185m 0	<b>&lt;1</b>	<1	<1
Magnesium	ppm	ASTM D5185m 1010	<b>908</b>	973	961
Calcium	ppm	ASTM D5185m 1070	<b>991</b>	1054	1127
Phosphorus	ppm	ASTM D5185m 1150	<b>997</b>	1054	1088
Zinc	ppm	ASTM D5185m 1270	<b>1229</b>	1286	1279
Sulfur	ppm	ASTM D5185m 2060	<b>3009</b>	3154	3159

## CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >25	<b>13</b>	▲ 33	▲ 31
Sodium	ppm	ASTM D5185m	▲ <b>104</b>	▲ 127	89
Potassium	ppm	ASTM D5185m >20	▲ <b>54</b>	▲ 56	36
Glycol	%	*ASTM D2982	<b>NEG</b>	NEG	NEG

## INFRA-RED

	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844 >3	<b>0.1</b>	0.2	0.1
Nitration	Abs/cm	*ASTM D7624 >20	<b>7.0</b>	7.9	6.8
Sulfation	Abs/.1mm	*ASTM D7415 >30	<b>19.4</b>	20.1	19.4

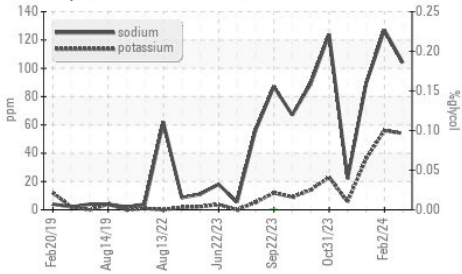
## FLUID DEGRADATION

	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414 >25	<b>15.3</b>	16.1	15.2
Base Number (BN)	mg KOH/g	ASTM D2896 9.8	<b>8.6</b>	8.3	8.6

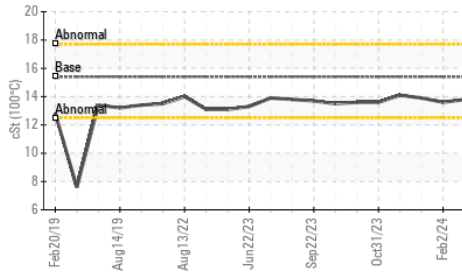


# OIL ANALYSIS REPORT

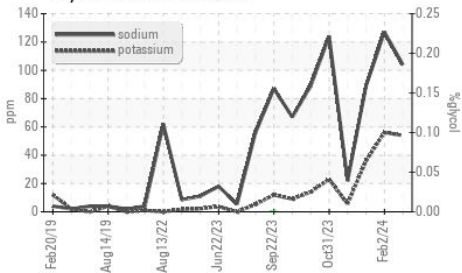
Glycol Contamination



Viscosity @ 100°C



Glycol Contamination

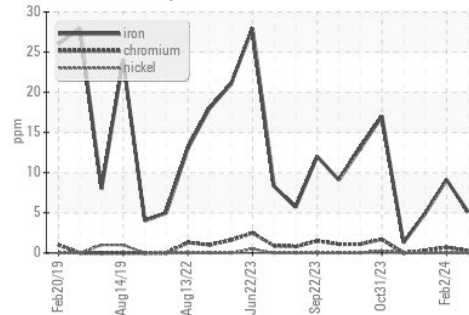


VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance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

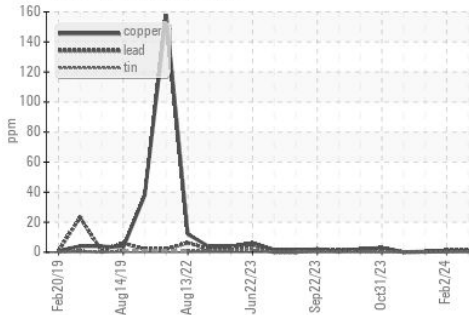
FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.4	13.8	13.6

## GRAPHS

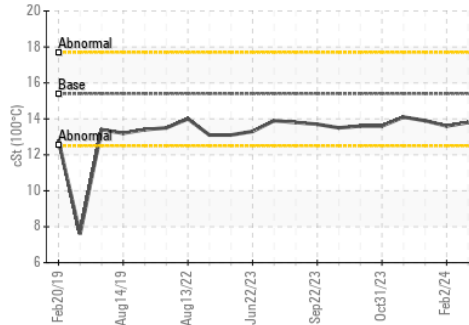
Ferrous Alloys



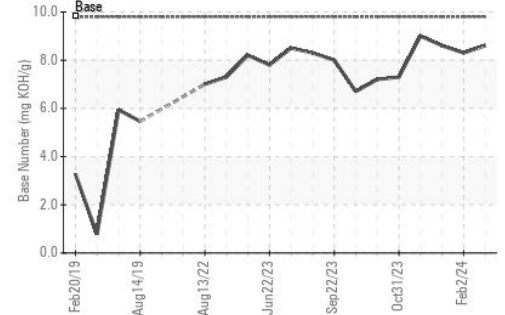
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513

Sample No. : GFL0105210

Lab Number : 06091458

Unique Number : 10884311

Test Package : FLEET ( Additional Tests: Glycol )

Received : 16 Feb 2024

Tested : 20 Feb 2024

Diagnosed : 20 Feb 2024 - Jonathan Hester

GFL Environmental - 821 - Ozarks Hauling

33924 Olath Drive

Lebanon, MO

US 65536

Contact: Landen Johnson

landen.johnson@gflenv.com

T: (417)664-0010

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)