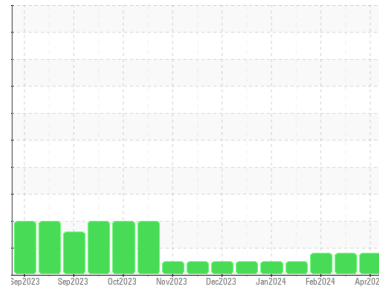




# OIL ANALYSIS REPORT

Sample Rating Trend



**WEAR**



Machine Id

**914032**

Component

**Diesel Engine**

Fluid

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

## DIAGNOSIS

### Recommendation

Oil and filter change at the time of sampling has been noted. No corrective action is recommended at this time. Resample at the next service interval to monitor.

### Wear

Valve wear is indicated. All other 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>GFL0115378</b>	GFL0115368	GFL0110875
Sample Date	Client Info		<b>04 Apr 2024</b>	20 Mar 2024	12 Feb 2024
Machine Age	hrs	Client Info	<b>1705</b>	1488	1340
Oil Age	hrs	Client Info	<b>217</b>	148	151
Oil Changed	Client Info		<b>Changed</b>	Changed	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
Glycol	WC Method		<b>NEG</b>	NEG	NEG

## WEAR METALS

	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m >100	<b>42</b>	37	30
Chromium	ppm	ASTM D5185m >20	<b>&lt;1</b>	1	<1
Nickel	ppm	ASTM D5185m >4	<b>▲ 14</b>	▲ 14	▲ 11
Titanium	ppm	ASTM D5185m	<b>0</b>	<1	0
Silver	ppm	ASTM D5185m >3	<b>&lt;1</b>	0	<1
Aluminum	ppm	ASTM D5185m >20	<b>4</b>	3	3
Lead	ppm	ASTM D5185m >40	<b>0</b>	<1	0
Copper	ppm	ASTM D5185m >330	<b>94</b>	105	198
Tin	ppm	ASTM D5185m >15	<b>2</b>	0	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>4</b>	4	7
Barium	ppm	ASTM D5185m 0	<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m 60	<b>64</b>	63	61
Manganese	ppm	ASTM D5185m 0	<b>2</b>	2	2
Magnesium	ppm	ASTM D5185m 1010	<b>913</b>	952	877
Calcium	ppm	ASTM D5185m 1070	<b>1046</b>	1117	964
Phosphorus	ppm	ASTM D5185m 1150	<b>912</b>	906	934
Zinc	ppm	ASTM D5185m 1270	<b>1174</b>	1219	1130
Sulfur	ppm	ASTM D5185m 2060	<b>2452</b>	2639	2224

## CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >25	<b>13</b>	11	12
Sodium	ppm	ASTM D5185m	<b>5</b>	10	4
Potassium	ppm	ASTM D5185m >20	<b>11</b>	9	6

## INFRA-RED

	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844 >3	<b>0.9</b>	0.7	0.6
Nitration	Abs/cm	*ASTM D7624 >20	<b>10.3</b>	10.0	9.4
Sulfation	Abs/.1mm	*ASTM D7415 >30	<b>21.6</b>	21.2	20.5

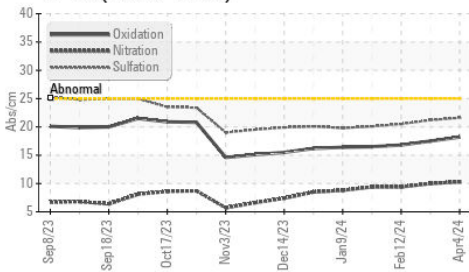
## FLUID DEGRADATION

	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414 >25	<b>18.2</b>	17.5	16.8
Base Number (BN)	mg KOH/g	ASTM D2896 9.8	<b>5.6</b>	5.9	6.4

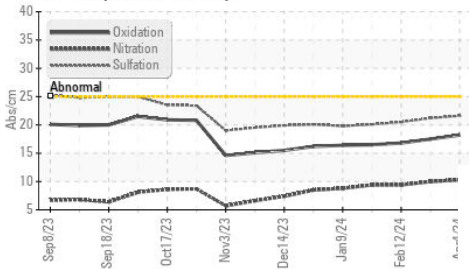


# OIL ANALYSIS REPORT

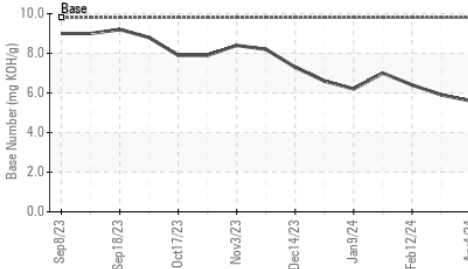
FT-IR (Direct Trend)



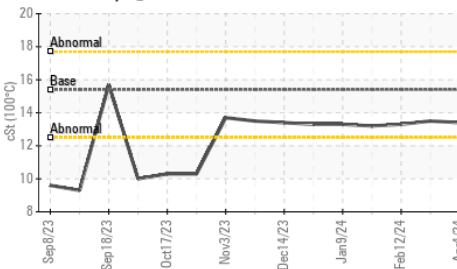
FT-IR (Direct Trend)



Base Number



Viscosity @ 100°C

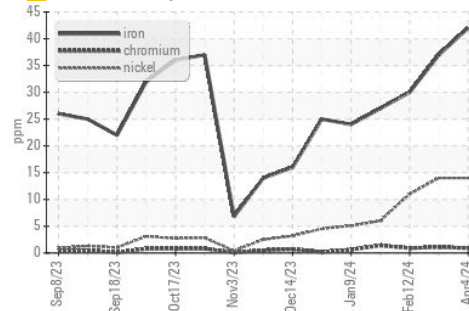


VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance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

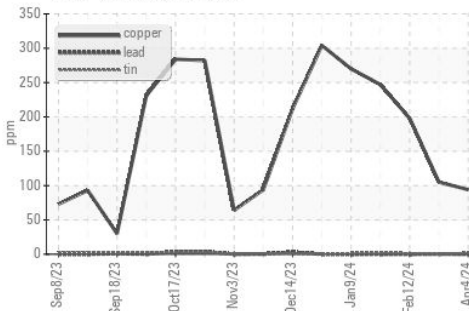
FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.4	13.4	13.5

## GRAPHS

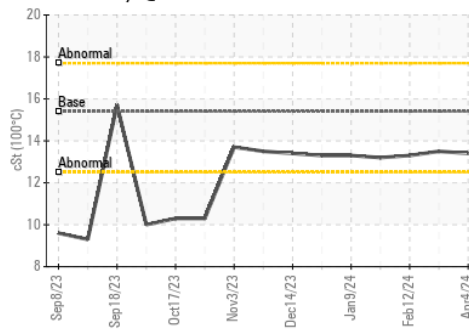
▲ Ferrous Alloys



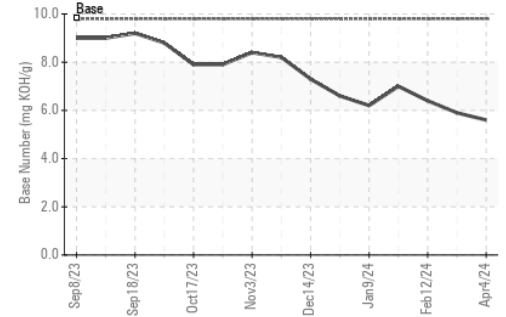
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : GFL0115378  
**Lab Number** : 06145187  
**Unique Number** : 10969995  
**Test Package** : FLEET

**Received** : 10 Apr 2024  
**Tested** : 11 Apr 2024  
**Diagnosed** : 13 Apr 2024 - Don Baldrige

**GFL Environmental - 814 - Little Rock Hauling**  
 4005 Hwy 161 N.  
 Little Rock, AR  
 US 72117  
 Contact: Brad Koenig  
 bkoenig@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: