



Area  
**(83J3TW)**  
Machine Id  
**229035-632119**  
Component  
**Diesel Engine**  
Fluid  
**PETRO CANADA DURON SHP 15W40 (--- GAL)**

**RECOMMENDATION**

We advise that you check for the source of the coolant leak. The oil change at the time of sampling has been noted. We recommend an early resample to monitor this condition. No other corrective action is recommended at this time.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>GFL0108172</b>	GFL0102434	GFL0102552
Sample Date		Client Info		<b>08 Jan 2024</b>	19 Dec 2023	30 Nov 2023
Machine Age	hrs	Client Info		<b>10216</b>	10096	9953
Oil Age	hrs	Client Info		<b>0</b>	0	0
Filter Age	hrs	Client Info		<b>0</b>	0	0
Oil Changed		Client Info		<b>Changed</b>	N/A	Not Changd
Filter Changed		Client Info		<b>Changed</b>	N/A	Not Changd
Sample Status				<b>SEVERE</b>	ABNORMAL	ABNORMAL

**WEAR**

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	<b>16</b>	15	49
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>	1	6
Lead	ppm	ASTM D5185m	>40	<b>&lt;1</b>	0	0
Copper	ppm	ASTM D5185m	>330	<b>&lt;1</b>	<1	1
Tin	ppm	ASTM D5185m	>15	<b>&lt;1</b>	<1	0
Vanadium	ppm	ASTM D5185m		<b>0</b>	0	0
White Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE

**CONTAMINATION**

Test for glycol is positive. Light fuel dilution occurring. There is a high concentration of glycol present in the oil. No other contaminants were detected in the oil.

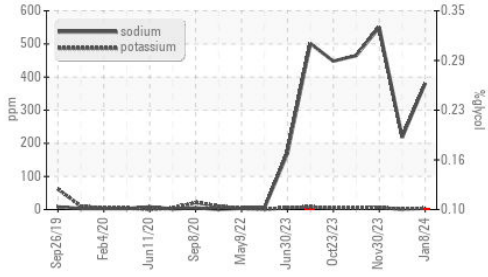
Silicon	ppm	ASTM D5185m	>25	<b>7</b>	5	11
Potassium	ppm	ASTM D5185m	>20	<b>4</b>	1	6
Fuel	%	ASTM D3524	>5	<b>1.4</b>	<1.0	<1.0
Water		WC Method	>0.2	<b>NEG</b>	NEG	NEG
Glycol	%	*ASTM D2982		<b>0.10</b>	NEG	NEG
Soot %	%	*ASTM D7844	>3	<b>0.5</b>	0.3	0.7
Nitration	Abs/cm	*ASTM D7624	>20	<b>11.9</b>	9.7	14.3
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>24.1</b>	23.0	29.9
Silt	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Debris	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Appearance	scalar	*Visual	NORML	<b>NORML</b>	NORML	NORML
Odor	scalar	*Visual	NORML	<b>NORML</b>	NORML	NORML
Emulsified Water	scalar	*Visual	>0.2	<b>NEG</b>	NEG	NEG

**FLUID CONDITION**

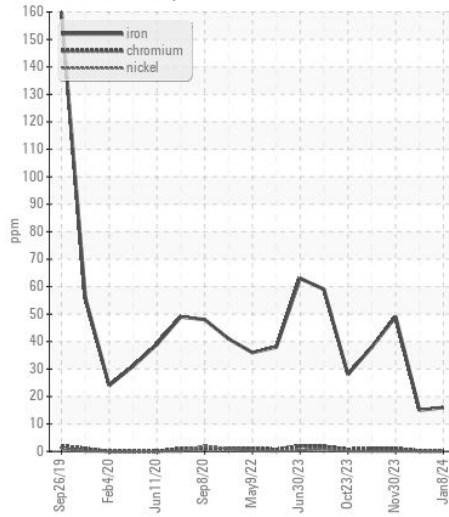
The BN result indicates that there is suitable alkalinity remaining in the oil. The oil is no longer serviceable due to the presence of contaminants.

Sodium	ppm	ASTM D5185m		<b>381</b>	218	550
Boron	ppm	ASTM D5185m	0	<b>4</b>	3	5
Barium	ppm	ASTM D5185m	0	<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m	60	<b>76</b>	76	116
Manganese	ppm	ASTM D5185m	0	<b>0</b>	<1	0
Magnesium	ppm	ASTM D5185m	1010	<b>1016</b>	1156	1376
Calcium	ppm	ASTM D5185m	1070	<b>1137</b>	1264	1521
Phosphorus	ppm	ASTM D5185m	1150	<b>1090</b>	1201	1390
Zinc	ppm	ASTM D5185m	1270	<b>1299</b>	1469	1761
Sulfur	ppm	ASTM D5185m	2060	<b>2834</b>	3394	3502
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>22.1</b>	19.6	28.0
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	<b>8.2</b>	8.8	8.8
Visc @ 100°C	cSt	ASTM D445	15.4	<b>11.6</b>	13.9	15.5

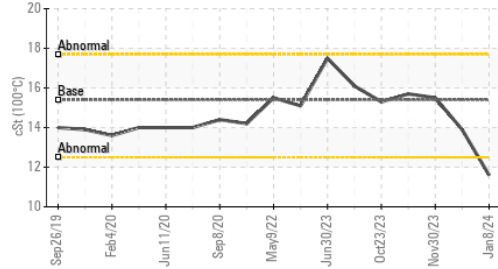
**Glycol Contamination**



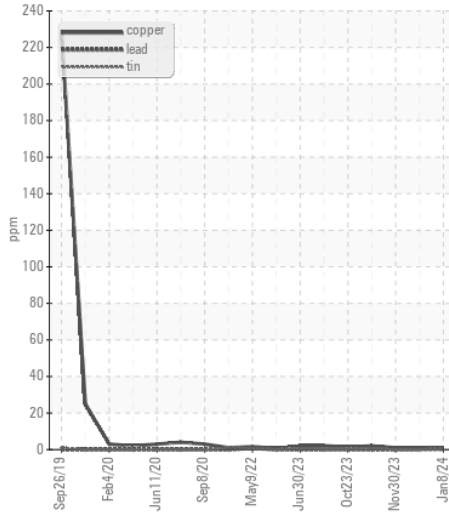
**Ferrous Alloys**



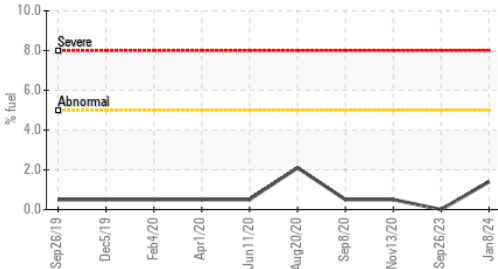
**Viscosity @ 100°C**



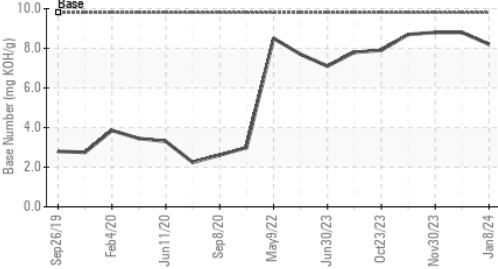
**Non-ferrous Metals**



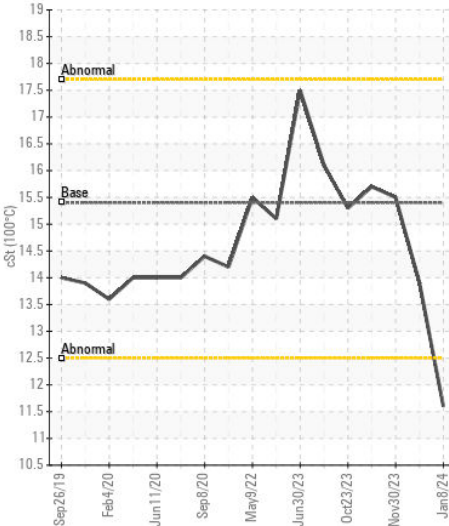
**Fuel Dilution**



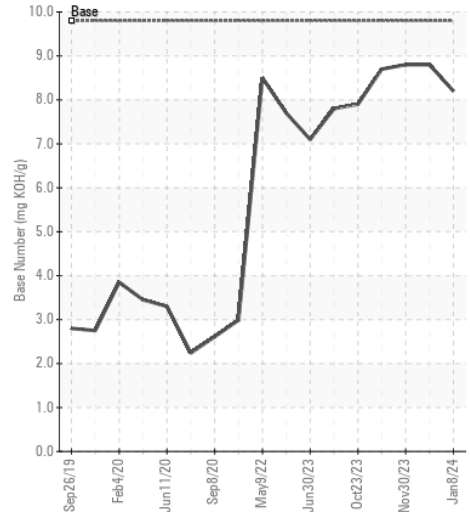
**Base Number**



**Viscosity @ 100°C**



**Base Number**



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : GFL0108172 **Received** : 18 Jan 2024  
**Lab Number** : 06064733 **Diagnosed** : 01 Feb 2024  
**Unique Number** : 10836115 **Diagnostician** : Wes Davis  
**Test Package** : FLEET ( Additional Tests: FuelDilution, Glycol, PercentFuel )

**GFL Environmental - 836 - Kansas City Hauling**  
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 Kansas City, MO  
 US 64126  
 Contact: Robert Hart  
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 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)