



Area  
**(EP1959)**  
Machine Id  
**AUTOCAR 3812**  
Component  
**Diesel Engine**  
Fluid  
**PETRO CANADA DURON SHP 15W40 (11 GAL)**

**RECOMMENDATION**

No corrective action is recommended at this time. Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>GFL0114533</b>	GFL0109111	GFL0086180
Sample Date		Client Info		<b>17 May 2024</b>	25 Jan 2024	30 Nov 2023
Machine Age	hrs	Client Info		<b>14004</b>	13760	0
Oil Age	hrs	Client Info		<b>503</b>	13760	13516
Filter Age	hrs	Client Info		<b>503</b>	0	0
Oil Changed		Client Info		<b>N/A</b>	N/A	N/A
Filter Changed		Client Info		<b>N/A</b>	N/A	N/A
Sample Status				<b>ABNORMAL</b>	ABNORMAL	ABNORMAL

**WEAR**

The aluminum level is abnormal. All other component wear rates are normal.

Iron	ppm	ASTM D5185m	>165	<b>25</b>	12	11
Chromium	ppm	ASTM D5185m	>5	<b>1</b>	<1	0
Nickel	ppm	ASTM D5185m	>4	<b>&lt;1</b>	0	0
Titanium	ppm	ASTM D5185m	>2	<b>&lt;1</b>	<1	0
Silver	ppm	ASTM D5185m	>2	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m	>20	<b>▲ 27</b>	3	1
Lead	ppm	ASTM D5185m	>150	<b>1</b>	0	0
Copper	ppm	ASTM D5185m	>90	<b>7</b>	5	0
Tin	ppm	ASTM D5185m	>5	<b>&lt;1</b>	0	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**

Elemental level of silicon (Si) above normal indicating ingress of seal material.

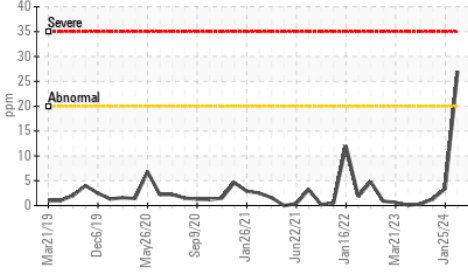
Silicon	ppm	ASTM D5185m	>35	<b>▲ 36</b>	▲ 35	7
Potassium	ppm	ASTM D5185m	>20	<b>3</b>	0	2
Fuel		WC Method	>3.0	<b>&lt;1.0</b>	0.4	▲ 4.9
Water		WC Method	>0.2	<b>NEG</b>	NEG	NEG
Glycol		WC Method		<b>NEG</b>	NEG	NEG
Soot %	%	*ASTM D7844	>7.5	<b>0.8</b>	0.5	0.1
Nitration	Abs/cm	*ASTM D7624	>20	<b>9.0</b>	6.4	4.3
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>20.3</b>	17.8	15.6
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**

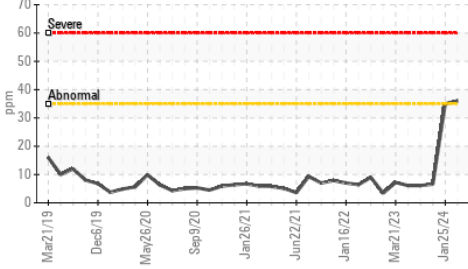
The oil viscosity is lower than normal. The BN result indicates that there is suitable alkalinity remaining in the oil. Confirm oil type.

Sodium	ppm	ASTM D5185m		<b>2</b>	3	1
Boron	ppm	ASTM D5185m	0	<b>15</b>	24	32
Barium	ppm	ASTM D5185m	0	<b>&lt;1</b>	0	1
Molybdenum	ppm	ASTM D5185m	60	<b>58</b>	59	55
Manganese	ppm	ASTM D5185m	0	<b>&lt;1</b>	<1	0
Magnesium	ppm	ASTM D5185m	1010	<b>663</b>	669	699
Calcium	ppm	ASTM D5185m	1070	<b>1088</b>	1080	1115
Phosphorus	ppm	ASTM D5185m	1150	<b>969</b>	929	929
Zinc	ppm	ASTM D5185m	1270	<b>1089</b>	1060	1176
Sulfur	ppm	ASTM D5185m	2060	<b>2937</b>	2716	3041
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>13.9</b>	11.7	10.5
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	<b>6.6</b>	6.8	7.9
Visc @ 100°C	cSt	ASTM D445	15.4	<b>● 11.8</b>	● 11.7	▲ 11.1

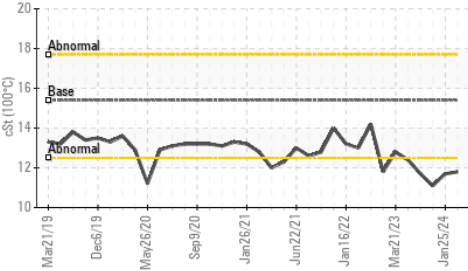
▲ Aluminum (ppm)



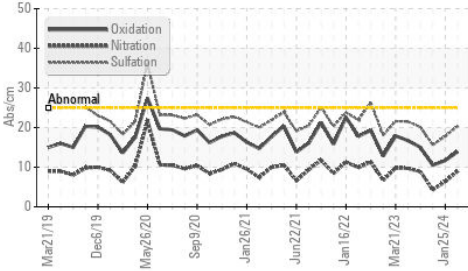
▲ Silicon (ppm)



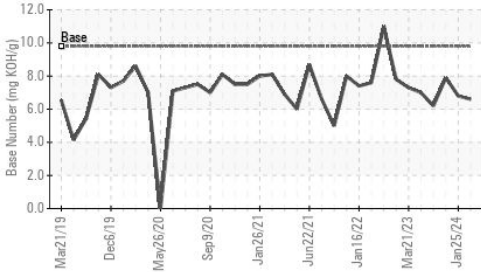
● Viscosity @ 100°C



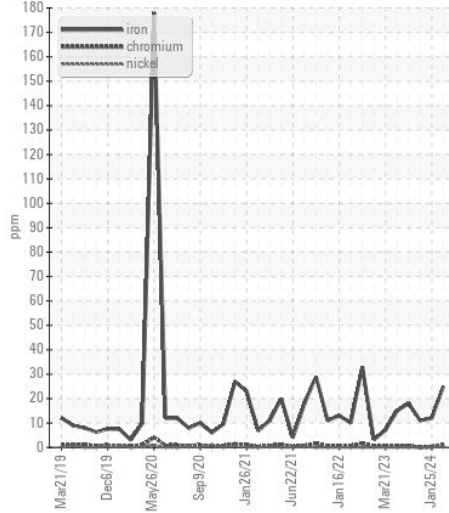
FT-IR (Direct Trend)



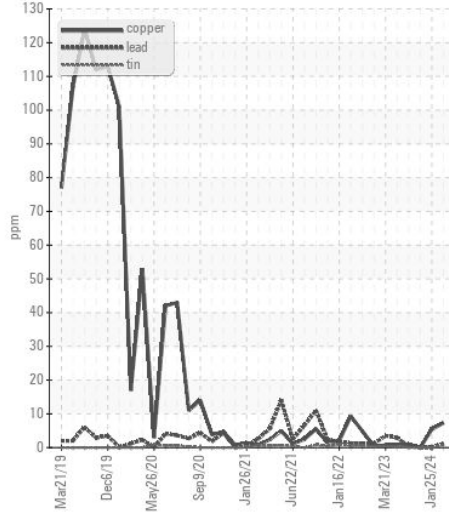
Base Number



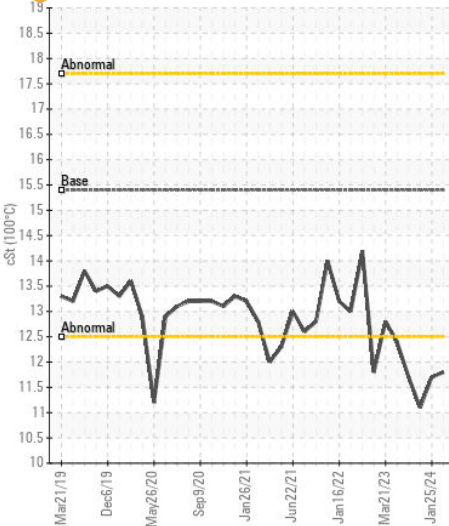
Ferrous Alloys



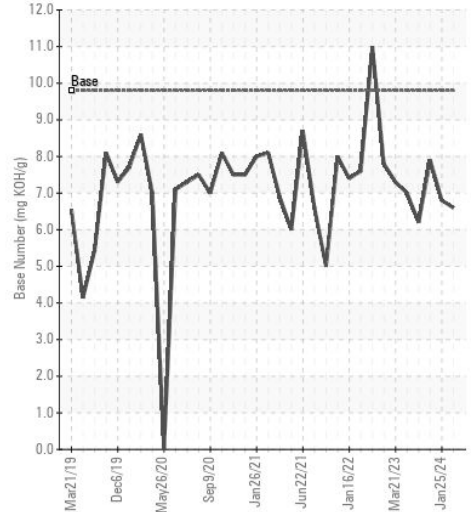
Non-ferrous Metals



● Viscosity @ 100°C



Base Number



Certificate L2367

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

Sample No. : GFL0114533

Lab Number : 06187402

Unique Number : 11044154

Test Package : FLEET

Received : 22 May 2024

Tested : 31 May 2024

Diagnosed : 31 May 2024 - Jonathan Hester

GFL Environmental - 009 - Fairburn

6905 Roosevelt Hwy

Fairburn, GA

US 30213

Contact: Eric Jones

erjones@gflenv.com

T: (678)630-9927

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)