



WEAR	<b>ABNORMAL</b>
CONTAMINATION	<b>NORMAL</b>
FLUID CONDITION	<b>NORMAL</b>



Area  
**(48003UA)**  
Machine Id  
**813050**  
Component  
**Diesel Engine**  
Fluid  
**PETRO CANADA DURON SHP 15W40 (--- 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>GFL0085077</b>	GFL0100140	GFL0100107
Sample Date		Client Info		<b>16 Apr 2024</b>	16 Jan 2024	30 Oct 2023
Machine Age	hrs	Client Info		<b>2290</b>	1304	0
Oil Age	hrs	Client Info		<b>2290</b>	1304	0
Filter Age	hrs	Client Info		<b>0</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>	NORMAL	NORMAL

**WEAR**

Exhaust valve wear is indicated.

Iron	ppm	ASTM D5185m	>120	<b>11</b>	3	2
Chromium	ppm	ASTM D5185m	>20	<b>1</b>	0	0
Nickel	ppm	ASTM D5185m	>5	<b>▲ 8</b>	<1	1
Titanium	ppm	ASTM D5185m	>2	<b>&lt;1</b>	0	0
Silver	ppm	ASTM D5185m	>2	<b>&lt;1</b>	0	<1
Aluminum	ppm	ASTM D5185m	>20	<b>1</b>	<1	<1
Lead	ppm	ASTM D5185m	>40	<b>1</b>	0	0
Copper	ppm	ASTM D5185m	>330	<b>3</b>	0	0
Tin	ppm	ASTM D5185m	>15	<b>2</b>	<1	<1
Vanadium	ppm	ASTM D5185m		<b>&lt;1</b>	0	0
White Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE

**CONTAMINATION**

There is no indication of any contamination in the oil.

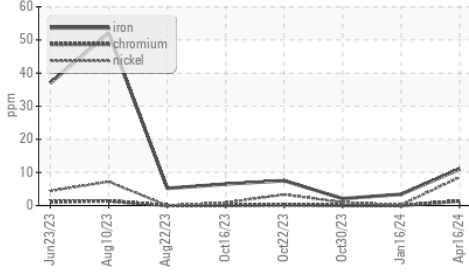
Silicon	ppm	ASTM D5185m	>25	<b>7</b>	3	4
Potassium	ppm	ASTM D5185m	>20	<b>3</b>	<1	0
Fuel		WC Method	>3.0	<b>&lt;1.0</b>	<1.0	<1.0
Water		WC Method	>0.2	<b>NEG</b>	NEG	NEG
Glycol		WC Method		<b>NEG</b>	NEG	NEG
Soot %	%	*ASTM D7844	>4	<b>0.4</b>	0.2	0.2
Nitration	Abs/cm	*ASTM D7624	>20	<b>7.8</b>	5.7	5.9
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>19.1</b>	17.9	18.2
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**

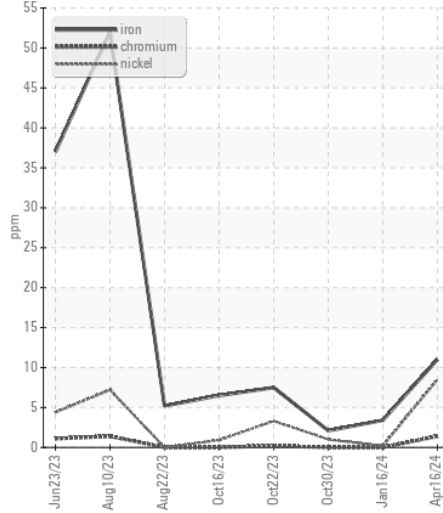
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m		<b>3</b>	2	<1
Boron	ppm	ASTM D5185m	0	<b>3</b>	2	7
Barium	ppm	ASTM D5185m	0	<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m	60	<b>58</b>	59	55
Manganese	ppm	ASTM D5185m	0	<b>2</b>	<1	0
Magnesium	ppm	ASTM D5185m	1010	<b>905</b>	1020	908
Calcium	ppm	ASTM D5185m	1070	<b>1072</b>	1130	1009
Phosphorus	ppm	ASTM D5185m	1150	<b>1048</b>	1065	990
Zinc	ppm	ASTM D5185m	1270	<b>1191</b>	1305	1195
Sulfur	ppm	ASTM D5185m	2060	<b>3292</b>	3375	2964
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>15.3</b>	13.8	14.3
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	<b>7.8</b>	8.7	8.7
Visc @ 100°C	cSt	ASTM D445	15.4	<b>13.5</b>	13.9	14.0

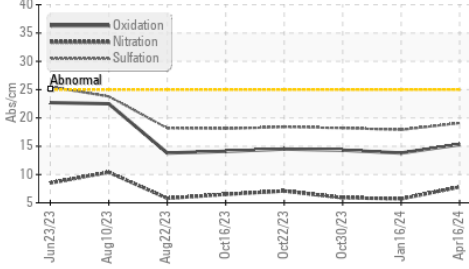
▲ Ferrous Alloys



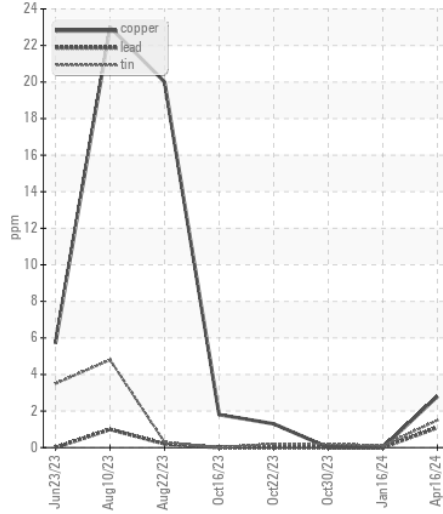
▲ Ferrous Alloys



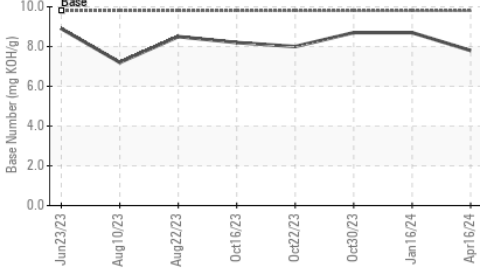
FT-IR (Direct Trend)



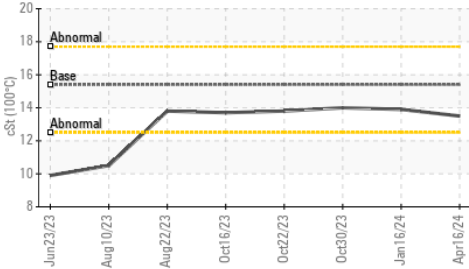
Non-ferrous Metals



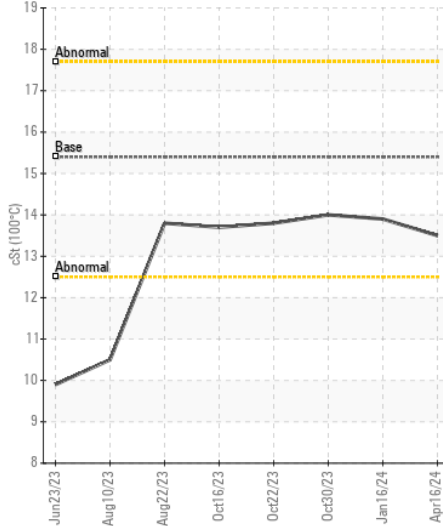
Base Number



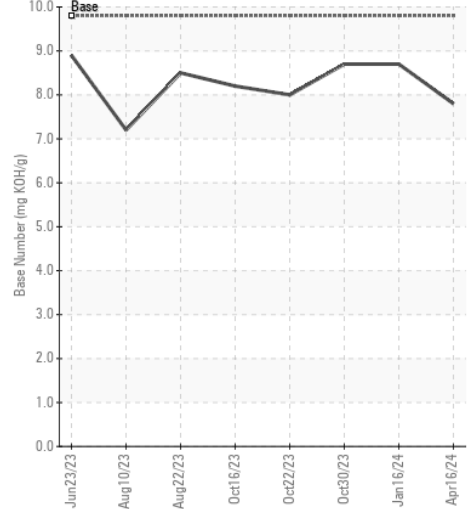
Viscosity @ 100°C



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
 Sample No. : GFL0085077  
 Lab Number : 06152868  
 Unique Number : 10982946  
 Test Package : FLEET

Received : 18 Apr 2024  
 Tested : 19 Apr 2024  
 Diagnosed : 22 Apr 2024 - Sean Felton

GFL Environmental - 659 - Mechanicsville  
 8280 RICHFOOD RD  
 Mechanicsville, VA  
 US 23116  
 Contact: Dwayne Oliver  
 dwayneoliver@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: